A Community Survey of the Parenting Practices of Parents of 4-year-old Children

Family Health Service

Department of Health

The Research Team

Dr Shirley SL Leung, Principal Medical Officer, Family Health Service, Department of Health
Dr Cynthia M Leung, Senior Research Officer, Family Health Service, Department of Health
Dr Ruth SM Chan, Research Officer, Family Health Service, Department of Health
Dr Karen Tso, Senior Medical Officer, Family Health Service, Department of Health
Mrs Francis Au, Chief Programme Officer (Parenting Programme), Family Health Service, Department of Health

Table of Contents

Executive summary

Background

In recent years, there is increasing concern about psycho-social problems in young people such as substance abuse, delinquency, suicide, and teenage pregnancy. Many of these adolescent problems can be traced back to the early childhood years. Children who exhibit behaviour problems at an early age are at a higher risk of adolescent behaviour problems. Child behaviour problems are associated with a number of parenting and family support variables. It is clear that if these parenting and child behaviour problems are not addressed, and early onset behaviour problems are not treated or prevented, aggressive children are likely to go on to develop various delinquent problems. One of the effective interventions is parenting programmes to equip parents with positive, non-violent discipline methods and supportive parenting approaches that promote child psychosocial development. Recognizing the importance of early intervention, the Family Health Service, Department of Health, Hong Kong, launched its parenting programme for parents of children from birth to five in 2002 through its Maternal and Child Health Centres (MCHCs).

The present study is a survey of the profile of child behaviour problems, parenting and family support, in terms of parental perception of child behaviour problems, parenting stress and parenting sense of competence, marital relationship, and social support, conducted prior to the introduction of the aforesaid parenting programme. The survey may be repeated regularly to track changes in the above parameters, to examine co-occurrence of the various child behaviour, parenting and family support variables, and to provide data for comparisons between subpopulations of families. The information can also shed light on the effectiveness of the territory-wide parenting programme and the needs of parents and children for services.

Survey design and findings

The participants were Chinese parents with children aged 4 years (+/- 6 months) who had registered with MCHCs and were living in Hong Kong during the study period. A multi-stage cluster sampling method was used. A total of 942 useable questionnaires were returned, with a response rate of 83.29%. The participants were requested to complete a set of questionnaires on child behaviour problems, parenting and family support variables, and access to parenting education.

The results indicated that approximately 10% of children may have clinically significant behaviour problems, which warrants further evaluation. Parenting and family support variables were associated with socioeconomic factors such as parents' educational level, parents' occupational status and family income, together with type of childcare assistance. Families with parents of lower educational level, lower occupational status, and lower family income were reporting higher problem levels. The results also indicated that parenting and

family support variables and child behaviour problems were associated with one another.   In particular, one of the more important factors was the availability of social support, in the sense of having someone to share in times of stress.   Families with social support were more likely to report lower child behaviour problems, lower parenting stress, less frequent use of dysfunctional discipline styles, higher parenting efficacy and higher marital satisfaction. Parents with children with more behaviour problems were more likely to report higher parenting stress, lower parenting efficacy and lower marital satisfaction.

As far as parenting education is concerned, the study results showed that fathers and younger parents were less likely to participate in parenting education.   Parents were most likely to access parenting education through direct services to children such as schools and MCHCs.

Implications for services

In terms of service provision, the results indicate that more attention should be paid to several categories of parents.

- Approximately 10% of children may have clinically significant behaviour problems, which warrants further evaluation. Services should be provided to these children and their families to help them deal with the problem.

- It is apparent that parents of low socioeconomic status (low educational level, low occupational status and low income level) are experiencing considerable difficulties in parenting.   Services should be targeted towards this group of parents to give them support to deal with their parenting difficulties.

- As fathers and younger parents are less likely to access parenting education, strategies should be devised to encourage more fathers and younger parents to participate in parenting education.

The results suggest that schools and MCHCs are popular access points for parenting education as they are very accessible and there is no stigma associated with attending these premises.

It is evident that social support for parents is related to child behaviour problems and parenting difficulties.   Services to enhance social support among parents, such as parent support groups, parent self-help groups etc will help to build up social support network among parents.

Chapter 1
Introduction

1.1 Childhood behaviour problems

In recent years, there is increasing concern about psycho-social problems in young people including self perception of unsatisfactory health (Department of Community and Family Medicine, 1999), drug abuse (Narcotics Division, 2001), teenage pregnancy (Hong Kong College of Obstetricians and Gynaecologists, 2000), delinquency and crime (Census and Statistics Department, 2000; Hong Kong Police, 1999), youth suicide (Samaritan Befrienders, 2001; Stewart, Lam, Beston & Chung, 1999), and mental disorders (Lau, Cheung & Leung, 2000; Lee & Lee, 2000; Leung, Luk & Ho, 1996; Wong & Lau, 1992).   If these adolescent psycho-social problems are not addressed, there might be considerable resulting human, social and economic costs to the community.

Many of these adolescent problems can be traced back to the early childhood years. Children who exhibit **behaviour** problems at an early age are at a higher risk of adolescent **behaviour** problems, delinquency and substance abuse (Barkley, Fischer, Edelbrock & Smallish, 1991; Earls, 1994; Loeber & Hay, 1994; Campbell, 1995; Patterson, Forgatch, Yoerger & Stoolmiller, 1998; Webster-Stratton & Hancock, 1998).   The risk for adolescent problems is further increased if the following factors are present: harsh and inconsistent parental discipline, parent difficulty in monitoring child activity, academic failure, and association with deviant peers (Webster-Stratton & Taylor, 2001).   Webster-Stratton and Taylor (2001) also point out that other risk factors such as poverty impact on child behaviour outcome through one of the above four factors.

Children who are impulsive or hyperactive can sometimes be overwhelming for parents and many parents may respond with harsh and inconsistent discipline.   These disciplinary techniques are likely to lead to more behaviour problems in children.   According to Webster-Stratton and Taylor (2001), "harsh discipline provides a negative model of behaviour, fails to promote prosocial child behaviour, and impedes development of adaptive social cognitive skills.   Inconsistent parenting, or failure to set limits, results in early conduct problems becoming more stable habits or patterns of behaviour" (p. 166).   This leads to a vicious cycle where ineffective parenting leads to child behaviour problems which lead to increased difficulties in parenting.   Children with behaviour problems face a greater chance of being rejected by teachers and peers in school.   Rejected children often make friends with other rejected children and reinforce each other's antisocial behaviour.   Webster-Stratton and Taylor (2001) maintain that early childhood behaviour problems "may result in a synergistic cycle of cumulative events that increasingly compromise children's functioning over time" (p. 166).

It is necessary to point out that family relationship and parenting issues are also influenced by the social world beyond the family.   High levels of family stress can interfere

1

with effective care giving and exacerbate disrupted and ineffective parenting (Webster-Stratton & Taylor, 2001; Olds, 1988). It is well documented that parent-child interaction and the quality of parenting are affected by parents' life events and availability of social support. Parents who are isolated from supportive networks have been found to have higher rates of care giving dysfunction (Olds, 1988). Changes in parent-child relationship and family tension can arise if there are changes in parents' work situations (e.g. redundancy) (Dunn, 1994). Parents' marital relationships have also been found to affect child behaviour (Benzies, Harrison & Magill-Evans, 1998; Frosch & Mangelsdorf, 2001).

It is clear that if the above early parenting difficulties and child behaviour problems are not addressed, and early onset behaviour problems are not treated or prevented, aggressive children are likely to go on to develop various delinquent problems (Webster-Stratton & Taylor, 2001). It is now widely recognized that one of the effective interventions is parenting education programmes which equip parents with positive, non-violent discipline methods and supportive parenting approaches that promote child psychosocial development (Webster-Stratton & Hancock, 1998). There are different types of parenting education programmes. Some are universal programmes for all children and their parents, while selective programmes are for children and families who are at risk because of social and environmental factors. Indicated programmes are for children diagnosed as having behaviour problems (Webster-Stratton & Taylor, 2001).

1.2 Parenting programmes in Department of Health

Recognizing the importance of early intervention, in Hong Kong, the Family Health Service, Department of Health, launched a new parenting programme for parents of children from birth to five in 2002 through its Maternal and Child Health Centres (MCHCs). The universal programme is provided to all parents while the Positive Parenting Programme (Triple P), an intensive programme, targets parents of children with early signs of behaviour problems, and those who encounter difficulties in parenting. The Triple P, originally developed in Australia, was translated into Chinese. The Chinese version has been found to be effective with Chinese parents in Hong Kong in reducing child behaviour problems, dysfunctional discipline style, and increasing parenting sense of competence (Leung, Sanders & Leung, 2002).

1.3 The present study

To determine whether the above-mentioned universal parenting programme can lead to improvement in child functioning and parental well-being, at both the individual and population level, outcome measures are required.   The present study is a baseline survey of the profile of parenting practices, family support and child behaviour, in terms of parental perception of child behaviour problems, parenting stress, dysfunctional discipline styles, parenting sense of competence, marital relationship and social support, conducted prior to the introduction of the aforesaid universal parenting programme.   It is anticipated that the survey may be repeated regularly and the information can potentially be used to:

- Determine the prevalence of child behaviour problems and parenting problems
- Assess whether child behaviour problems, parenting problems and family support increase, decrease, or stay the same over time
- Examine the co-occurrence of child behaviour problems, parenting problems and family support
- Provide comparable data among subpopulations of families and children
- Monitor the effectiveness of the universal parenting programme
- Provide periodical information about the parenting needs of parents with preschool children.

1.4 Aims of the present study

Specifically, the present survey aims to determine:

- The magnitude of child behaviour problems
- The magnitude of parenting problems (parenting stress, dysfunctional discipline style, parenting efficacy)
- The level of family support (marital relationship and social support)
- The extent to which parents participate in parenting education programmes
- The association between child behaviour problems, parenting problems and family support.

Chapter 2
Method

2.1 Participants

The participants were Chinese parents with children aged 4 years (+/- 6 months) who had registered with MCHCs and were living in Hong Kong during the study period (September 2002 to February 2003).   MCHCs have a coverage rate of over 90% for all newborns in Hong Kong.   A multi-stage cluster sampling method was used. The whole Hong Kong area was divided into four regions and a certain number of MCHCs were randomly selected from each region.   The number of MCHCs selected and the total number of selected clients in each region was proportional to the population in that region.   The MCHC client register was used as the sampling frame.   Each of the selected centres provided a case number list of all children born between the aforesaid period and target participants were randomly selected from the lists.   In each selected centre, the number of clients selected was proportional to the number of newborns born between 1 March 1998 to 28 February 1999 registered at that centre.   The number of centres and participants selected are shown in Table 1.

A total of 1 505 questionnaires were sent out and among them, 374 target participants were not contactable[1].   Among the remaining 1 131 target participants, 122 indicated that they did not wish to participate in the study.   Some of them returned the consent form and chose the option of non-participation while others made it clear that they did not wish to participate when they were contacted by research assistants by phone.   A total of 1009 questionnaires were returned giving a participation rate of 67.04% (1009/1505) and a response rate of 89.21% (1009/1131).   Among the 1009 returned questionnaires, there were 55 questionnaires with incomplete data on the family support, parenting and child behaviour scales and 12 questionnaires from participants who were not normally residing in Hong Kong. These 67 questionnaires were excluded from further analysis and a total of 942 participants were included in the actual analysis (adjusted response rate: 83.29%).

---

[1] These included the following categories: (i) letters returned by the post office, (ii) follow up phone contact not possible as phone line was cut, (iii) follow up phone contact indicated that target participant was no longer at that number and address unknown, (iv) nobody answering the phone despite repeated attempts.

Table 1

Number of Centres and Participants Selected in Each Region

Region	MCHC	Total no. of new cases from Mar 1998 to Feb 1999	No. of subjects selected for the survey
HK	Aberdeen	1106	107
	Kennedy Town	919	89
	Shau Kei Wan	862	84
KLN	East Kowloon	921	75
	Hung Hom	1780	144
	Li Po Chun	1609	130
	Yung Fung Shee	909	74
NTW	Madam Yung Fung Shee	2905	172
	Tsing Yi	1266	75
	Yan Oi	2720	161
NTE	Cheung Chau	255	15
	Fanling	2772	157
	Lek Yuen	2896	164
	Po Ning Road	1021	58
	Total	21941	1505

2.2 Measures

The measures consisted of a set of questionnaires to be completed by the participants.

2.2.1 Child behaviour problems

Eyberg Child Behaviour Inventory (ECBI) (Eyberg & Ross, 1978)－ this is a 36-item multi-dimensional measure of parental perception of disruptive behaviour in children and incorporates two scores, the intensity score and the problem score. The former is an indication of the frequency of problem behaviours and the latter is an indication of the number of behaviours considered as a problem by parents. High scores indicate high frequency and high number of problem behaviours. The Chinese version of the ECBI has been validated by the Education and Manpower Bureau (2002) and ECBI scores were found to correlate with Parenting Stress Index (PSI) scores (Abidin, 1990; Lam, 1999) and the Child Behaviour Checklist scores (Achenbach & Edelbrock, 1983). There were also significant differences in ECBI scores between a group of children referred for psychological services because of behaviour problems and a group of students randomly sampled from schools. The reliability estimates of the intensity scale and the problem scale were .94 and .93 respectively (Education and Manpower Bureau, 2002).

2.2.2　Parenting variables

Parenting Scale (PS) (Arnold, O'Leary, Wolff & Acker, 1993) － this 30-item questionnaire measures dysfunctional discipline styles in parents.　It consists of three factors, laxness (LX) (permissive discipline), over-reactivity (OR) (authoritarian discipline), and verbosity (VR) (long reprimands).　High scores indicate more frequent use of the discipline styles.　Only the former two factors (21 items) were measured in this study as the reliability of the VR factor was less satisfactory (α = .63) (Turner, Markie-Dadds & Sanders, 2002).

Parenting Stress Index – short form (PSI) (Abidin, 1990; Lam, 1999) － this is a 36-item questionnaire consisting of three factors: Parental Distress (PD) measuring an impaired sense of parental competence and depression, Parent-Child Dysfunctional Interaction (PCDI) measuring unsatisfactory parent-child interaction, and Difficult Child (DC) measuring behavioural characteristics of the child.　High scores indicate higher difficulties.　Only the former two factors (12 items in each factor) were measured in the present study as there is an overlap between the DC subscale and the ECBI because both are measuring child problem behaviour.　The Chinese version of the PSI was validated by Lam (1999) and the factor structure of the Chinese version was found to be similar to the original factor structure suggested by Abidin (1990).　The overall reliability was .89 (Lam, 1999).

Parenting Sense of Competence Scale (PSOC) (Gibaud-Wallston & Wandersman, 1978) － this is a 16-item questionnaire (6-point scale) which could be sub-divided into two subscales.　The first one is the satisfaction subscale which measures absence of parental frustration and anxiety.　The second is the efficacy subscale which measures parents' feeling of efficacy as a parent.　High scores indicate higher sense of parenting efficacy.　Only the efficacy subscale (7 items) was used in the present study because there is an overlap in content between the satisfaction subscale and the PSI as both are measuring parental distress and anxiety.

2.2.3　Family support variables

Relationship Quality Index (RQI) (Norton, 1983) － this is a 6-item index of marital or relationship quality and satisfaction.　High scores indicate high satisfaction.

Social support － this consists of three questions requesting participants to indicate the availability of support in three areas: (a) emergency childcare; (b) sharing in times of stress and (c) financial assistance.

2.2.4　Parenting education

Access to parenting education － this consists of a series of questions asking participants' experience of parenting education such as how they accessed parenting information, source of parenting information, format of information received, etc.

2.2.5   Other information

Socioeconomic and demographic information－ participants were requested to supply information on issues including sex, age, length of residence in Hong Kong and educational level of target child, age, length of residence in Hong Kong, educational level and occupation of both parents as well as family type, marital status, relationship of participant to target child and public assistance status.   Besides, participants were asked about their family information including whether the target child was living with parents, and presence of caregiver(s) other than parents.

Use of MCHC service－ participants were requested to indicate the frequency of their use of MCHC service.

Health issues of the child and parents－ information on the target child's medical and developmental history, medical and psychiatric problems of parents were obtained from MCHC records.

2.3 Procedures

An invitation letter explaining the purpose of the survey and a consent form were sent to the selected families together with the whole set of questionnaires.   The participant, who was the main caregiver, was requested to complete the questionnaire at a time most convenient to him/her.   Trained research assistants called the participants one week later to check for the completion of the questionnaires and to answer any query that participants might encounter in answering the questions.   Participants were then asked to return the consent form and the completed questionnaires using the stamped envelopes provided.

2.4 Data analysis

Independent t test, analysis of variance (ANOVA) and multivariate analysis of variance (MANOVA) were the main statistical techniques used for analysis.   The dependent variables were child behaviour problems, parenting and family support variables, and access to parenting education, and the independent variables were the socioeconomic and demographic factors.   In view of the large number of analyses performed and the issue of inflated alpha, a stringent alpha level of $< .001$ is adopted.   In some cases, categories with small cell sizes were combined (Tabachnick & Fidell, 1989).

Chapter 3
Results

3.1 The sample

3.1.1 General characteristics

In terms of the target children, there were 506 (54.0%) boys and 436 (46.0%) girls respectively. The sex ratio was similar to the 2001 census figures (Census and Statistics Department, 2002), where among children aged 1 to 4 years, 52% were boys and 48% were girls. The mean age of the target children was 4.17 years ($SD = 0.30$) and their mean length of residence in Hong Kong was 4.06 years ($SD = 0.61$). Among them, 938 (99.6%) were attending either kindergartens or preschools. There were three children who were not receiving any preschool education and there was one child who attended a playgroup. According to the 2001 census (Census and Statistics Department, 2002), among children aged 3 to 5 years old, the school attendance rate was 94.7%.

For the participants, there were 808 biological mothers and 127 biological fathers, as well as one foster mother and six others. The mean ages of mothers and fathers were 34.51 years ($SD = 4.86$) and 38.80 years ($SD = 6.10$) whereas the mean length of residence in Hong Kong for mothers and fathers were 25.23 years ($SD = 14.16$) and 33.90 years ($SD = 9.98$). According to the 2001 census, among households with at least one child aged 3 to 4 years old, the largest percentage of fathers (54.2%) and mothers (70.8%) were in the 30 to 39 age group.

With regard to the financial situation of the participants, there were 37 (3.9%) participants who reported that they were receiving Comprehensive Social Security Assistance (CSSA). Further information on household income, parents' educational level and occupation, together with the corresponding 2001 census figures based on households with at least one child aged 3 to 4 years old, are shown in Table 2. Compared with the census data, there were fewer families with income at or above $20,000 - $29,999 range. There were also fewer parents with matriculation and tertiary degree qualifications in the present sample. There was a higher concentration of parents in the clerical and sales/service group than the corresponding census figures. In terms of working status of mothers, 53.3% of the mothers in the present sample were not working and the corresponding census figure was 50.2%. For fathers, there were 5.8% in the present sample who were not working, compared with 8.3% in the 2001 census.

For family structure, 910 (96.6%) of the participants were married. There were 670 (71.1%) nuclear families, 248 (26.3%) extended families, 19 (2.0%) single parent families and 5 (0.5%) re-constituted families. According to the 2001 census, among households with at least one child between 3 to 4 years old, 72.1% of the households were nuclear families and 13.2% were extended families. There was an over-representation of extended families in the present sample but the percentage of nuclear families was very similar to the census figures.

Among the participants, 900 (95.5%) lived with their children all the time while 29

(3.1%) lived with their children only during weekends, and 13 (1.4%) did not live with their children.　　In terms of types of childcare assistance, there were 287 (30.5%) participants who reported that they had no other caregivers for their children, except themselves.　　There were 315 (33.4%) participants who reported having grandparents as caregivers, in addition to themselves, and there were 230 (24.4%) participants who reported using domestic helpers to help look after their children.　　The others included relatives ($n = 78$, 8.3%) and hired childcare ($n = 32$, 3.4%).

Table 2

Comparison of sample Characteristics with Census Data

Characteristics	Present Sample		Census Data	
Educational level	Father	Mother	Male	Female
No schooling/kindergarten	0.6%	1.1%	1.1%	1.5%
Primary	10.2%	8.7%	14.2%	11.6%
Lower secondary	28.8%	24.3%	26.8%	23.0%
Upper secondary	34.9%	47.3%	27.7%	38.1%
Matriculation	3.6%	4.0%	8.1%	9.2%
Tertiary:　non-degree course	4.5%	4.6%	4.6%	4.2%
Tertiary:　degree course	16.7%	9.7%	17.6%	12.4%
Occupation	Father	Mother	Male	Female
Managerial/administrative	17.8%	13.3%	19.8%	11.0%
Professional	15.7%	13.5%	20.8%	28.8%
Clerical	9.2%	49.3%	5.4%	35.7%
Sales/service	14.9%	20.0%	14.4%	15.9%
Skilled/manual	42.4%	3.9%	39.7%	8.6%
Family income				
Under $4, 000	2.5%		1.5%	
$4,000 - $9,999	18.4%		11.9%	
$10,000 - $19,999	34.5%		30.2%	
$20,000 - $29,999	16.3%		18.4%	
$30,000 - $39,999	11.5%		11.7%	
$40,000 or above	16.3%		26.2%	

3.1.2　　Comparison between the participants and those excluded because of incomplete data

A series of chi square tests and independent t tests were computed to examine possible differences between the 942 participants included in the analysis and the 55 participants with

incomplete data. There were no significant differences in the various socioeconomic and demographic variables except relationship with target child, mother's occupation and living status. Among those with incomplete data, there were more fathers, more working mothers and more of them lived with their children only during weekends.

3.1.3   Comparison between the participants and the refusal cases

For the 122 refusal cases, information on their socioeconomic and demographic information four years ago were obtained from their MCHC files and they were compared with the socioeconomic and demographic information (4 years ago) of 120 participants who were selected randomly from the 942 participants included in the analysis. Chi square tests and independent t tests indicated that there were no significant differences in most socioeconomic and demographic variables except father's age. The mean father's age of the refusal cases ($M = 36.93$, $SD = 8.11$) was older than that of participating participants ($M = 34.15$, $SD = 6.11$).

3.2 Statistical issues

In the following sections, detailed description of the child behaviour problems, parenting and family support variables, in relation to socioeconomic and demographic factors are presented.

Though the main objective of this survey was to provide a baseline picture of the current profile of child behaviour problems, parenting and family support variables in Hong Kong, analyses on the relationship between the various socioeconomic and demographic factors and the parenting, family support variables and child behaviour problems were also performed to examine the possible patterns. Due to the large number of analyses and the possibility of inflated alpha, an alpha level of $< .001$ was adopted. It must be pointed out that many of the socioeconomic variables were associated with one another. For example, family income and parents' educational level and parents' occupation were associated with one another. The reader should take this into consideration in the interpretation of the results. Results in descriptive terms are presented below. The statistical details are presented in Appendix 1.

3.3 Child behaviour profile

Child behaviour profile (behaviour problems) was measured through the ECBI intensity and problem scales. First, descriptive statistics would be presented, followed by analyses in relation to socioeconomic and demographic factors. Finally, information in relation to cut off scores would be presented.

Scores for children on the ECBI-intensity scale were normally distributed (skewness $= .08$) (Figure 1). For ECBI-problem scale, the distribution was skewed (skewness $= 1.13$), with scores ranging between 0 to 34 (Figure 2). The reliability (Cronbach Alpha) for ECBI-intensity scale and ECBI-problem scale were .92 and .91 respectively. The mean

scores of the ECBI-intensity scale and ECBI-problem scale were 117.13 (95%CI = 115.67 to 118.59) and 7.18 (95%CI = 6.73 to 7.63) respectively.   In the Hong Kong validation of the ECBI, the mean ECBI-intensity score and ECBI-problem score of a sample of 516 target children aged 4 to 16 were 107.25 and 7.30 respectively (Education and Manpower Bureau, 2002).

There was a significant difference in ECBI-intensity scores due to sex of target children. Boys scored higher (M = 119.87, 95%CI = 117.92 to 121.82) than girls (M = 113.95, 95%CI = 111.78 to 116.13) on ECBI-intensity scores.

There was also a significant difference in ECBI-intensity scores due to mother's educational level.   The lowest scores were observed among families with mothers with tertiary education (degree course).   Father's age was negatively related to ECBI-intensity scores (r = -.14 [95%CI = -0.20 to -0.08], p < .001, n = 927).   No other associations with socioeconomic or demographic variables were observed.
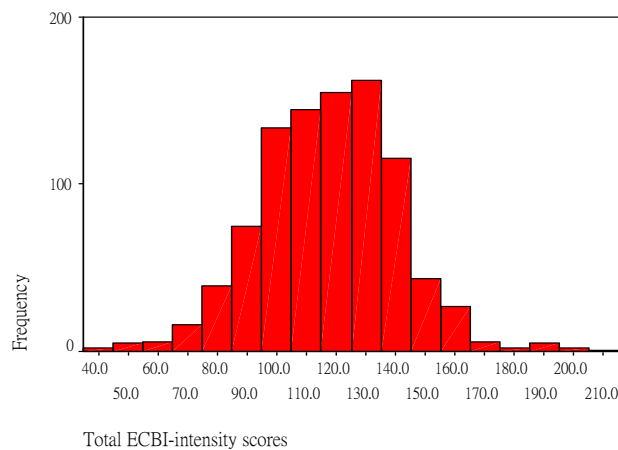

Figure 1. Distribution of ECBI-Intensity Scores
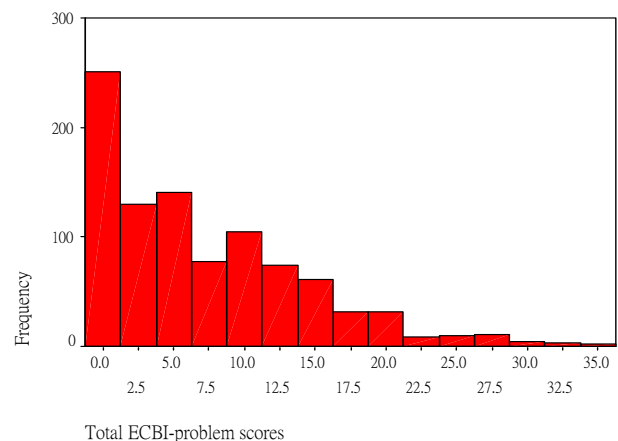
Figure 2. Distribution of ECBI-Problem Scores

11

To screen for behaviour problems, Eyberg and Pincus (1999) recommended using a cut-off point of 131 on the ECBI-intensity scale and a cut-off point of 15 on the ECBI-problem scale.   Using the Eyberg and Pincus (1999) standard, 99 children (10.5%) were above the cut-off points.

3.4 Family support profile

There were two variables examined under the heading of family support, namely, social support and marital relationship.   In each case, the descriptive statistics would be presented first, to be followed by analyses of these variables in relation to various socioeconomic and demographic factors.

3.4.1   Social support

Participants were asked about availability of social support and their responses are shown in Table 3.   The majority of participants indicated that they had some forms of support in times of need.

Table 3

Availability of social support ($n = 941$)

Type of support	Available	Not Available
Carer for child in case of emergency	836 (88.8%)	105 (11.2%)
Someone to share in times of stress	778 (82.7%)	163 (17.3%)
Assistance in times of financial difficulties	740 (78.6%)	201 (21.4%)

A series of chi square tests were conducted to examine the association between availability of social support and socioeconomic and demographic factors.

Childcare in emergency

Childcare in emergency was associated with types of childcare assistance.   Participants who claimed that they had no childcare assistance were more likely to report that they had no childcare in emergency than the other groups.   Childcare in emergency was also associated with family income and mother's working status.   Participants from low income groups and families with non-working mothers were more likely to report that they had no childcare in emergency.

Someone to share in times of stress

Having someone to share in times of stress was associated with CSSA status. Participants on CSSA were less likely to have someone to share in times of stress.   Having someone to share in times of stress was also associated with father's educational level.

Families with fathers having higher educational qualifications were more likely to report having support.

Assistance in times of financial difficulty

Assistance in times of financial difficulty was associated with family income, and CSSA status. Families with lower income and families on CSSA were less likely to report availability of assistance in times of financial difficulty. Assistance in times of financial difficulty was also associated with father's occupation, father's educational level, mother's educational level, and mother's working status. In all cases, families where fathers were holding higher status jobs, where parents were better educated and where mothers were working were more likely to report availability of assistance in times of financial difficulty.

3.4.2   Marital relationship

Marital relationship was measured by the RQI. Scores on the RQI were slightly skewed (skewness = -.91) (Figure 3). The reliability (Cronbach Alpha) was .95 and the mean score was 33.57 (95%CI = 32.99 to 34.14). Scores of 29 or below are indicative of relationship distress (Turner, Markie-Dadds & Sanders, 2002). There were 255 (27.1%) participants with scores of 29 or below.
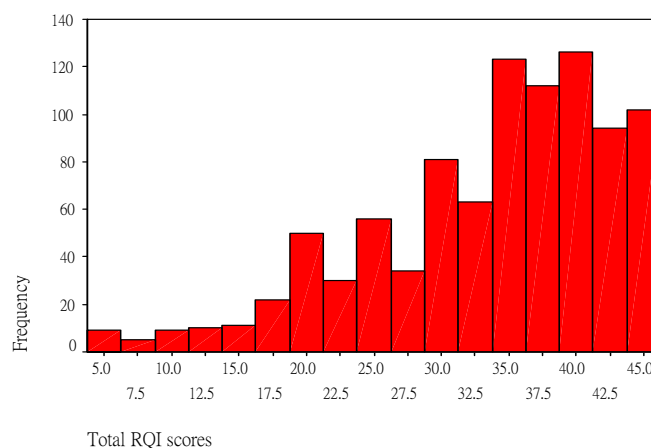
Figure 3. Distribution of RQI Scores

There was a significant difference in RQI scores due to father's educational level[2]. Families with fathers with higher educational levels reported higher scores. The mean and

---

[2] There was a significant difference in RQI scores due to family structure. Single parent families (mean = 11.82, 95%CI = 8.35 to15.30) reported lower scores than nuclear families (M = 34.01, 95%CI = 33.38 to 34.63) and extended families (M = 33.80, 95%CI = 32.62 to 34.97). Similarly, there was a significant difference in RQI scores due to marital status. Participants in a married relationship (M = 34.01, 95%CI = 33.46 to 34.56) reported higher RQI scores than those not in a married relationship (M = 19.21, 95%CI = 14.30 to 24.12). These results, however, should be interpreted with caution as the identity of the "partner" in single parent families is not clear.

95% confidence interval (CI) scores are shown in Table 4.

To sum up, marital relationship quality was found to be related to father's educational level.   Marital relationship quality, however, was not related to mother's educational level or employment.

Table 4

Mean RQI Scores and 95% CI by Father's Educational Level

	RQI scores
Primary education or below	31.49 (29.64 to 33.34)
Lower secondary	32.38 (31.27 to 33.48)
Upper secondary	34.34 (33.42 to 35.25)
Matriculation	36.09 (33.36 to 38.82)
Tertiary: non-degree course	33.79 (30.80 to 36.77)
Tertiary: degree course	35.40 (34.09 to 36.71)

3.5 Parenting profile

Three variables were included under the heading of parenting profile, namely, parenting stress, dysfunctional discipline style and parenting efficacy.   For each variable, descriptive statistics would be presented first, to be followed by analyses in relation to socioeconomic and demographic factors.   Finally, issues related to cut-off scores would be discussed.

3.5.1   Parenting stress

Parenting stress was measured using the PSI-PD and PSI-PCDI scales.   Scores on the PSI-PD (skewness = .16) and PSI-PCDI (skewness = .21) were normally distributed (Figures 4 and 5).   The reliability (Cronbach Alpha) for the PSI-PD and PSI-PCDI scales were .85 and .79 respectively.   The mean scores for the PSI-PD and PSI-PCDI scales were 34.05 (95%CI = 33.56 to 34.55) and 27.17 (95%CI = 26.81 to 27.54).   In the validation of the Chinese version of PSI, the mean PSI-PD and PSI-PCDI scores of the validation sample (a low income group) were 34.11 and 32.39 (Lam, 1999).   In the Education and Manpower Bureau (2002) study, the respective mean scores were 31.86 and 28.85.
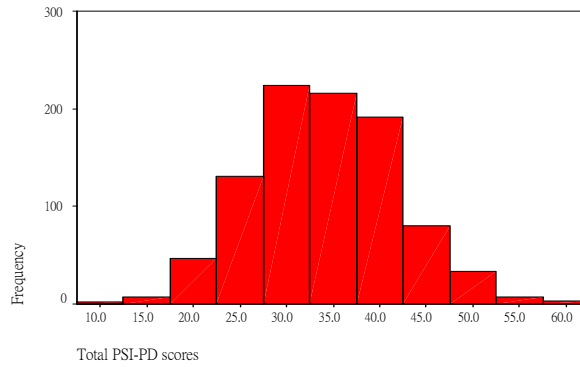
Figure 4. Distribution of PSI-PD Scores
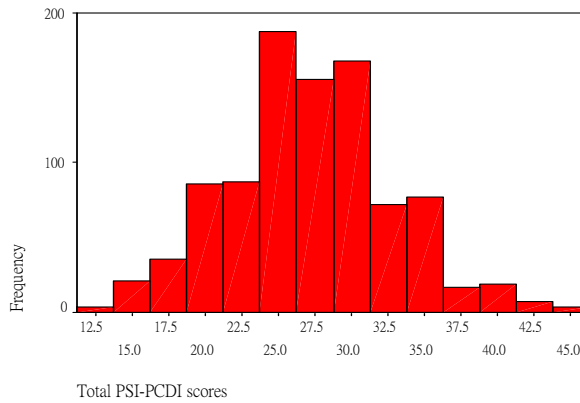
Figure 5. Distribution of PSI-PCDI Scores

There was a significant difference in PSI scores due to type of childcare assistance. Those using domestic helpers reported lower PSI-PD and PSI-PCDI scores than those using grandparents, relatives as childcare assistance or those without any assistance. The mean and confidence interval scores are shown in Table 5.

There was a significant difference in PSI scores due to father's educational level. The general trend was that families with fathers with higher educational levels reported lower PSI-PD and PSI-PCDI scores. There was a significant difference in PSI scores due to mother's educational level. Again, families with mothers with higher educational levels reported lower PSI-PD and PSI-PCDI scores. The mean and confidence interval scores are shown in Table 5.

There was a significant difference in PSI scores due to parents' occupation. The general trend was that families with parents with higher occupational status jobs reported lower PSI-PD and PSI-PCDI scores. The mean and confidence interval scores are shown in Table 6.

There was a significant difference in PSI scores due to family income. In all cases, those with monthly income above $40,000 reported lower scores and the higher the family income, the lower the PSI-PD and PSI-PCDI scores. The mean and confidence interval scores are shown in Table 7.

There was a negative correlation ($r = -.13$ [95%CI = -0.19 to -0.07], $p < .001$, $n = 936$) between mother's length of residence in Hong Kong and PSI-PD scores. Families with mothers who had been in Hong Kong for a shorter period of time reported higher PSI-PD scores.

Table 5

Mean PSI Scores and 95% CI by Childcare Assistance and Parents' Educational Level

	PSI-PD scores	PSI-PCDI scores
Type of childcare assistance		
Grandparents	34.13 (33.30 to 34.96)	27.83 (27.17 to 28.50)
Relatives	35.63 (33.90 to 37.36)	28.42 (27.08 to 29.77)
Domestic helpers	31.97 (30.94 to 32.99)	25.18 (24.50 to 25.85)
Hired childcare	34.41 (31.71 to 37.10)	27.53 (25.94 to 29.12)
No assistance	35.18 (34.31 to 36.05)	27.67 (27.06 to 28.28)
Father's educational level		
Primary education or below	36.32 (34.84 to 37.81)	29.79 (28.76 to 30.83)
Lower secondary	35.03 (34.14 to 35.93)	28.30 (27.64 to 28.97)
Upper secondary	34.04 (33.22 to 34.85)	27.02 (26.40 to 27.64)
Matriculation	34.00 (30.99 to 37.01)	25.53 (24.18 to 26.87)
Tertiary: non-degree course	31.48 (28.91 to 34.04)	25.21 (23.56 to 26.87)
Tertiary: degree course	31.47 (30.27 to 32.67)	24.94 (24.10 to 25.78)
Mother's educational level		
Primary education or below	35.05 (33.52 to 36.59)	29.47 (28.31 to 30.63)
Lower secondary	36.01 (35.02 to 37.00)	28.49 (27.81 to 29.18)
Upper secondary	33.54 (32.82 to 34.26)	27.07 (26.53 to 27.60)
Matriculation	33.95 (31.57 to 36.32)	25.84 (24.38 to 27.31)
Tertiary: non-degree course	32.79 (30.34 to 35.24)	24.44 (22.86 to 26.02)
Tertiary: degree course	31.01 (29.50 to 32.52)	24.30 (23.18 to 25.41)

There was also a significant difference in PSI-PCDI scores due to developmental problems in target children, $t(937) = -3.82$, $p < .001$. Participants with children with reported developmental problems ($M = 30.91$, 95%CI = 28.82 to 33.00) had higher PSI-PCDI scores than those without reported developmental problems ($M = 27.05$, 95%CI = 26.69 to 27.42).

On the whole, in terms of socioeconomic factors, there was a fairly consistent pattern showing that parents with lower educational levels, with lower occupational status and lower family income reported higher parenting stress.

Table 6: Mean PSI Scores and 95% CI by Parents' Occupation

	PSI-PD scores	PSI-PCDI scores
Father's occupation		
Managerial/administrative	32.58 (31.27 to 33.90)	25.49 (24.62 to 26.35)
Professional	31.55 (30.40 to 32.69)	25.13 (24.14 to 26.12)
Clerical	34.27 (32.68 to 35.86)	26.87 (25.68 to 28.05)
Sales/service	33.65 (32.36 to 34.93)	27.11 (26.24 to 27.97)
Skilled/manual	35.45 (34.67 to 36.23)	28.62 (28.06 to 29.19)
Non-working	34.98 (32.95 to 37.01)	28.57 (27.11 to 30.03)
Mother's occupation		
Managerial/administrative	31.83 (29.83 to 33.82)	24.10 (22.76 to 25.44)
Professional	30.57 (28.74 to 32.39)	25.40 (23.99 to 26.81)
Clerical	33.42 (32.37 to 34.47)	26.45 (25.68 to 27.22)
Sales/service	33.77 (31.96 to 35.58)	28.34 (26.89 to 29.80)
Skilled/manual	34.18 (30.97to 37.38)	27.41 (25.15 to 29.68)
Non-working	34.93 (34.27 to 35.60)	27.88 (27.41 to 28.35)

Table 7: Mean PSI Scores and 95% CI by Family Income

Family income	PSI-PD scores	PSI-PCDI scores
<$4,000	36.33 (33.40 to 39.27)	29.08 (26.83 to 31.33)
$4,000-9,999	35.75 (34.66 to 36.84)	28.69 (27.88 to 29.49)
$10,000-19,999	34.82 (34.00 to 35.64)	28.16 (27.57 to 28.76)
$20,000-29,999	33.73 (32.49 to 34.98)	27.02 (26.07 to 27.97)
$30,000-39,999	33.22 (31.76 to 34.68)	25.55 (24.55 to 26.54)
>=$40,000	31.05 (29.79 to 32.31)	24.47 (23.63 to 25.31)

According to Abidin (1990), scores above the 90th percentile (PSI-PD – 36; PSI-PCDI – 27) were indicative of parenting problems. In the present sample, 397 (42.1%) of the participants were above the 90th percentile for PSI-PD and 520 (55.2%) were above the 90th percentile for PSI-PCDI scores. There were 294 (31.2%) participants above the 90th percentile for both PSI-PD and PSI-PCDI.

The Abidin (1990) norms were based on a western sample. Another possibility is to use some kind of local external criterion to help determine a local cut-off score. One approach is to use the ECBI norm as an external criterion and ECBI scores have been found to correlate with PSI scores (Abidin, 1990; Education and Manpower Bureau, 2002). Using the ECBI cut-off scores as described in section 3.3 above, the mean PSI-PD scores of the ECBI problem group was 36.37 and that for the PSI-PCDI was 30.80. Using 37 as the cut-off score for

PSI-PD and 31 as the cut-off score for PSI-PCDI, there were 355 (37.7%) participants in the problem range for PSI-PD and 244 (25.9%) participants in the problem range for PSI-PCDI. There were 154 (16.3%) participants who were in the problem range for both PSI scores.

3.5.2   Dysfunctional discipline style

Discipline style was measured by the mean PS-LX and PS-OR scores.   Scores on the PS-LX (skewness = -.08) and PS-OR (skewness = .16) were normally distributed (Figures 6 and 7).   The reliability (Cronbach Alpha) for the PS-LX and PS-OR scales were .52 and .70 respectively.   The mean scores for the PS-LX and PS-OR scales were 3.77 (95%CI = 3.73 to 3.81) and 3.36 (95%CI = 3.31 to 3.41) respectively.

There was a significant difference in discipline style due to type of childcare assistance. Families using domestic helpers (M = 3.23, 95%CI = 3.13 to 3.33) reported lower PS-OR scores than families using relatives (M = 3.40, 95%CI = 3.32 to 3.47) and those without childcare assistance (M = 3.44, 95%CI = 3.34 to 3.53).
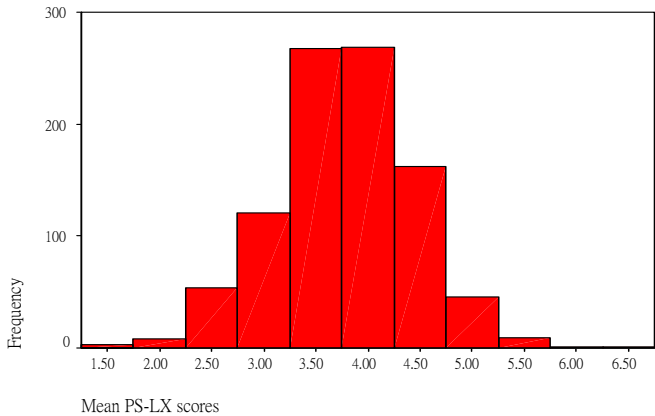
Figure 6. Distribution of PS-LX Scores
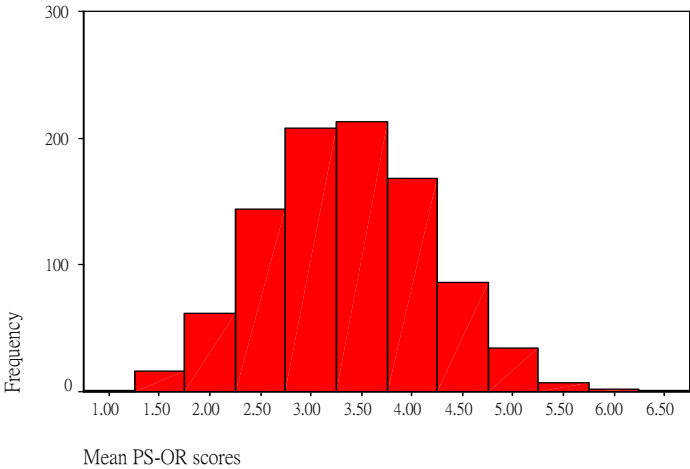
Figure 7. Distribution of PS-OR Scores

There was a significant difference in discipline style due to mother's educational level. Families with mothers with higher educational levels reported lower PS-LX and PS-OR scores. There was a significant difference in discipline style due to father's educational level. Families with fathers with higher educational levels reported lower PS-OR scores. The mean and confidence interval scores are shown in Table 8.

There was a significant difference in discipline style due to mother's occupation, Families with mothers with higher occupational status reported lower PS-LX and PS-OR scores. There was a significant difference in discipline style due to father's occupation. Families with fathers with higher occupational status reported lower PS-OR scores. The mean and confidence interval scores are shown in Table 9.

There was a significant difference in discipline style due to family income. Families with higher income reported lower PS-LX and PS-OR scores. The mean and confidence interval scores are shown in Table 10. PS-OR was also positively correlated with number of children at home ($r = .15$ [95%CI = 0.09 to 0.21], $p < .001$, $n = 942$).

Table 8: Mean PS Scores and 95% CI by Parents Educational Level

	Mean PS-LX scores	Mean PS-OR scores
Father's educational level		
Primary education or below	3.92 (3.80 to 4.04)	3.55 (3.39 to 3.71)
Lower secondary	3.85 (3.77 to 3.93)	3.50 (3.41 to 3.60)
Upper secondary	3.75 (3.68 to 3.82)	3.34 (3.26 to 3.43)
Matriculation	3.81 (3.64 to 3.98)	3.02 (2.73 to 3.30)
Tertiary: non-degree course	3.57 (3.36 to 3.78)	3.20 (2.95 to 3.45)
Tertiary: degree course	3.65 (3.53 to 3.76)	3.15 (3.01 to 3.28)
Mother's educational level		
Primary education or below	3.97 (3.84 to 4.09)	3.48 (3.30 to 3.65)
Lower secondary	3.85 (3.76 to 3.94)	3.46 (3.36 to 3.56)
Upper secondary	3.76 (3.70 to 3.81)	3.39 (3.31 to 3.46)
Matriculation	3.80 (3.57 to 4.04)	3.17 (2.94 to 3.41)
Tertiary: non-degree course	3.69 (3.50 to 3.88)	3.10 (2.83 to 3.37)
Tertiary: degree course	3.52 (3.35 to 3.69)	3.08 (2.90 to 3.25)

Table 9: Mean PS Scores and 95% CI by Parents' Occupation

	Mean PS-LX scores	Mean PS-OR scores
Father's occupation		
Managerial/administrative	3.74 (3.63 to 3.84)	3.26 (3.14 to 3.39)
Professional	3.67 (3.54 to 3.80)	3.07 (2.94 to 3.20)
Clerical	3.77 (3.61 to 3.92)	3.26 (3.08 to 3.44)
Sales/service	3.80 (3.70 to 3.91)	3.39 (3.25 to 3.54)
Skilled/manual	3.82 (3.75 to 3.88)	3.49 (3.41 to 3.57)
Non-working	3.85 (3.65 to 4.05)	3.59 (3.67 to 3.82)
Mother's occupation		
Managerial/administrative	3.70 (3.51 to 3.89)	3.01 (2.82 to 3.21)
Professional	3.56 (3.37 to 3.75)	3.04 (2.82 to 3.25)
Clerical	3.71 (3.62 to 3.79)	3.35 (3.24 to 3.46)
Sales/service	3.94 (3.79 to 4.09)	3.37 (3.21 to 3.52)
Skilled/manual	3.99 (3.68 to 4.31)	3.56 (3.08 to 4.05)
Non-working	3.80 (3.75 to 3.86)	3.43 (3.36 to 3.51)

Table 10: Mean PS Scores and 95% CI by Family Income

Family income	Mean PS-LX scores	Mean PS-OR scores
<$4,000	4.02 (3.79 to 4.25)	3.42 (3.02 to 3.82)
$4,000-9,999	3.82 (3.73 to 3.91)	3.54 (3.42 to 3.66)
$10,000-19,999	3.86 (3.79 to 3.93)	3.43 (3.34 to 3.52)
$20,000-29,999	3.71 (3.59 to 3.82)	3.39 (3.26 to 3.51)
$30,000-39,999	3.79 (3.67 to 3.92)	3.21 (3.06 to 3.35)
>=$40,000	3.57 (3.46 to 3.68)	3.09 (2.96 to 3.22)

Again, the picture was fairly consistent with that on parenting stress. Families with parents with lower educational levels, lower occupational status and lower income reported higher scores on dysfunctional discipline style.

According to Arnold et al (1993), the mean PS-LX and PS-OR scores of a clinic sample were 2.8 (SD = 1.0) and 3.0 (SD = 1.0) respectively. Using this criteria, 877 participants (93.1%) had scores at or above the clinic sample mean for PS-LX and 648 (68.8%) of the participants had scores at or above the clinic sample mean for PS-OR. A total of 607 (64.4%) of the participants had scores at or above the clinic sample means for both PS-LX and PS-OR.

3.5.3 Parenting efficacy

Parenting efficacy was measured by the efficacy subscale of the Parenting Sense of Competence Scale. Scores on the efficacy subscale were normally distributed (skewness = -.11) (Figure 8). The reliability (Cronbach Alpha) was .79 and the mean score was 27.11 (95%CI = 26.76 to 27.45). According to Johnston and Mash (1989), the range of mean scores in a community sample ranged from 24.97 to 25.77.
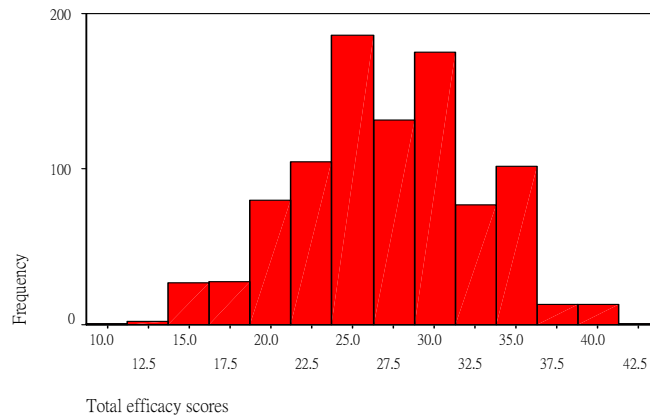
Figure 8. Distribution of Efficacy Subscale Scores.

Parenting efficacy was not related to any socioeconomic and demographic factors except mother's length of residence in Hong Kong. Parenting efficacy was negatively related to mother's length of residence in Hong Kong ($r = -.14$ [95%CI = -0.20 to –0.08], $p < .001$, $n = 936$).

3.6 Relationship between child behaviour variables, parenting variables and family support variables

The relationship between child behaviour variables, parenting variables and family support variables was examined using correlation analysis. Child behaviour problems were correlated with the parenting stress, parenting efficacy, marital relationship, and dysfunctional discipline style (PS-OR but not PS-LX). The results are shown in Table 11.

Table 11

Relationship Between Child Behaviour, Parenting Variables and Marital Relationship – Correlation Coefficients and 95% CI

	ECBI-I	ECBI-P	Efficacy	PSI-PD	PSI-PCDI	PS-LX	PS-OR
ECBI-P	.62**						
	(.58 to.66)						
Efficacy	-.39**	-.29**					
	(-.44 to -.33)	(-.35 to -.23)					
PSI-PD	.25**	.27**	-.23**				
	(.19 to .31)	(.21 to .33)	(-.29 to -.17)				
PSI-PCDI	.32**	.39**	-.26**	.49**			
	(.26 to .38)	(.33 to .44)	(-.32 to -.20)	(.44 to .54)			
PS-LX	-.06	-.04	.03	.03	.07*		
	(-.12 to .00)	(-.10 to .02)	(-.03 to .09)	(-.03 to .09)	(.01 to .13)		
PS-OR	.35**	.29**	-.25**	.31**	.38**	-.20**	
	(.29 to .41)	(.23 to .35)	(-.31 to -.19)	(.25 to .37)	(.32 to .43)	(-.26 to -.14)	
RQI	-.23**	-.21**	.26**	-.40**	-.29**	-.00	-.23**
	(-.29 to -.17)	(-.27 to -.15)	(.20 to .32)	(-.45 to -.35)	(-.35 to -.23)	(-.06 to .06)	(-.29 to -.17)

* significant at .05 level; ** significant at .01 level

Another family support variable, social support, was a dichotomous variable. Its relationship with child behaviour problems, parenting variables and marital relationship was examined using independent t tests and MANOVAs. The results are shown in Tables 12, 13 and 14.

For parenting issues, there was a significant difference in parenting efficacy in terms of availability of support (someone to share in times of stress), $t(939) = 4.40$, $p < .001$. Participants with support reported higher parenting efficacy scores than those without support. There were significant differences in PSI scores due to availability of social support, in terms of availability of childcare in case of emergency, availability of someone to share in times of stress, and assistance in times of financial difficulties. Participants with support reported lower PSI-PD and PSI-PCDI scores. There was also a significant difference in dysfunctional discipline style due to availability of support (someone to share in times of stress). Participants with support reported lower PS-OR scores. Furthermore, there was a significant difference in discipline style due to availability of support (assistance in times of financial difficulty), those with support reporting lower PS-LX and PS-OR scores.

For marital relationship, there was also a significant difference in RQI due to availability of support in terms of childcare in emergency, someone to share in times of stress, and assistance in times of financial difficulty. In all cases, those with support reported higher

scores.

For child behaviour problems, there were significant differences in ECBI scores due to availability of social support (someone to share in times of stress). Those with someone to share in times of stress reported lower ECBI-problem scores and ECBI-intensity scores than those who did not have someone to share.

Table 12

Mean and 95% CI Scores of Child Behaviour Problems, Parenting Variables and Marital Relationship by Social Support (Someone to Share in Times of Stress)

	Available	Not available
Parenting efficacy	27.45 (27.08 to 27.82)	25.37 (24.49 to 26.25)
RQI	34.66 (34.06 to 35.26)	28.36 (26.91 to 29.80)
PSI-PD	33.07 (32.55 to 33.60)	38.57 (37.49 to 39.65)
PSI-PCDI	26.65 (26.27 to 27.03)	29.83 (28.91 to 30.75)
PS-LX	3.77 (3.72 to 3.81)	3.81 (3.71 to 3.90)
PS-OR	3.31 (3.25 to 3.36)	3.62 (3.49 to 3.75)
ECBI-problem	6.75 (6.27 to 7.23)	9.08 (7.90 to 10.26)
ECBI-intensity	115.81 (114.23 to 117.39)	123.46 (119.78 to 127.14)

Table 13

Mean and 95% CI Scores of Marital Relationship and Parenting Stress by Social Support (Emergency Childcare)

	Available	Not available
RQI	34.03 (33.43 to 34.63)	29.88 (28.10 to 31.65)
PSI-PD	33.57 (33.05 to 34.09)	37.64 (36.28 to 39.01)
PSI-PCDI	26.91 (26.53 to 27.30)	29.47 (28.39 to 30.55)

Table 14: Mean and 95% CI Scores of Marital Relationship and Parenting Variables by Social Support (assistance in Times of Financial Difficulty)

	Available	Not available
RQI	34.56 (33.94 to 35.18)	29.89 (28.55 to 31.24)
PSI-PD	33.17 (32.62 to 33.72)	37.20 (36.22 to 38.17)
PSI-PCDI	26.68 (26.28 to 27.08)	29.12 (28.34 to 29.90)
PS-LX	3.75 (3.70 to 3.80)	3.87 (3.78 to 3.96)
PS-OR	3.33 (3.27 to 3.38)	3.50 (3.39 to 3.61)

3.7 Parenting education experience

Participants were asked about their access to parenting education services or information. There were 71 participants who reported that they used parenting education services/information often, and there were 572 who indicated that they used such services/information sometimes.   There were 299 participants who reported that they had never accessed parenting education information or services.   Participants in the former two groups were requested to give more information about the source and format of the services/information.   Their responses are shown in Table 15.

From Table 15, it could be seen that many participants accessed parenting education information through schools or parent-teacher associations and many obtained such information through books or journals.   As to the format of service, reading materials, talks, seminars or workshops were the most common ones.

A series of chi square tests and ANOVAs were conducted to examine the association between access to parenting education and socioeconomic and demographic variables, as well as child behaviour problems, parenting and family support variables.   There was a significance due to relationship with target child (only natural parents were included because of small cell sizes of other categories), $\chi^2(2, N = 935) = 23.12, p < .001$.   There were more fathers (49.6%) who claimed that they had never accessed parenting education than mothers (28.8%).   There were also significant differences due to father's age and mother's age. Those who reported that they had never accessed parenting education (father: $M = 37.62$, 95%CI = 36.92 to 38.21, mother: $M = 33.41$, 95%CI = 32.94 to 34.03) were younger than those who accessed parenting education sometimes (father: $M = 39.30$, 95%CI = 38.83 to 39.85, mother: $M = 34.93$, 95%CI = 34.53 to 35.32) or often (father: $M = 39.65$, 95%CI = 38.26 to 41.04, mother: $M = 35.77$, 95%CI = 34.64 to 37.04).   There was no significant association between access to parenting education and child behaviour problems, parenting and family support variables.

Table 15: Source and Format of Parenting Education Information/Service (participants could indicate more than one source and format)

Source of parent education	n
MCHC	276
Other Department of Health service	21
Social Welfare Department	31
Education Department	55
School/Parent-teacher association	402
Non-government organization	109
Books	338
Periodicals	291
Private practitioner/family doctor	68
Internet	84
TV/radio	50
Baby club, private or commercial sector	8
Others	30
Format of information/service	n
Pamphlet/booklet	390
Book/article	373
Internet	93
Talk/seminar/workshop (one day or less than one week)	326
Course (one week or above)	37
TV/radio, VCD/tape	10
Others	12

Chapter 4
Discussion

In this section, the child behaviour variables, parenting variables and family support variables and their relationship with various socioeconomic and demographic factors will be discussed first.   Next, access to parenting education is discussed.   This is then followed by a discussion of the problems and uncertainties associated with the use of cut-off points based on western norms.   These uncertainties have implications on the calculations and interpretations of prevalence rates.   The limitations of the present study and finally, the service implications are discussed.

4.1   Child behaviour problems, parenting variables and family support variables

The results suggested that socioeconomic factors such as parents' educational level, parents' occupational status and family income, together with type of childcare assistance, were related to parenting variables and family support variables.   The picture was fairly consistent in that families with parents with lower educational levels, lower occupational status, and lower family income were reporting higher problem levels in terms of parenting variables and family support variables.   Families using domestic helpers also reported lower problem levels.   However, it must be pointed out that parent educational level, parent occupation status, family income and the availability of domestic helpers are all inter-related. It is preferable to consider these as an aggregate factor, instead of taking each factor alone in isolation.   The results do consistently point to a group of socially and economically disadvantaged parents who are experiencing problems in parenting.   In contrast, child behaviour problems were not found to be related to most of the socioeconomic and demographic factors above except mother's educational level and father's age.   Child behaviour problems were also related to the sex of target child, with higher child behaviour problem scores for boys, which is a common phenomenon found in other studies on the prevalence of child behaviour problems (e.g. Luk, Leung & Bacon-Shone et al., 1991; McGee, Prior, Williams, Smart & Sanson, 2002; Moffit & Caspi, 2001).

The results also indicated that parenting variables, family support variables and child behaviour problems were associated with one another.   In particular, one of the more influential factors was the availability of social support, in the sense of having someone to share in times of stress.   This factor was significantly related to child behaviour problems, parenting variables and marital relationship.   The availability of emergency childcare assistance and financial assistance were also related to parenting variables and marital relationship, but not to child behaviour problems.   The results are consistent with the literature that the availability of social support is important for parenting (Olds, 1988; Pearson & Chan, 1993).   In another research on Hong Kong parents by the Boys' and Girls' Clubs Association of Hong Kong (1992), it was found that parenting irritability was related to availability of social support.   The results are also consistent with the postulations of

Webster-Stratton and Taylor (2001), Benzies, Harrison and Magil-Evans (1998), and Frosch and Mangelsdorf (2001) in that marital relationship and parenting variables are related to child behaviour problems. As discussed in the introduction section, parenting difficulties would lead to child behaviour problems but children with behaviour problems could also lead to parenting difficulties. The relationship among these variables is probably circular.

4.2 Access to parenting education

Access to parenting education was not related to any socioeconomic and demographic factors except relationship to target child and age of parents, nor was this related to child behaviour problems, parenting and family support variables. In terms of access points, participants accessed these services through providers of direct services to children mainly, such as schools or MCHCs. Participants preferred reading materials or one-off talks rather than courses requiring greater commitment. Though most participants reported having received some parenting education, there were still a considerable (about 30%) number of participants who reported no contact with parenting education service or information. The mean ages of fathers and mothers were lower in this group and a larger proportion of fathers, in comparison to mothers, reported that they had never accessed parenting education. In a telephone survey of 224 Hong Kong parents of children 15 years old or below, it was found that 61.3% of the participants had never attended any parenting activities (Hong Kong Council of Social Service, 1999).

4.3 Cut-off scores for child behaviour, parenting and family support scales

For child behaviour problems, using the Eyberg and Pincus (1999) classification, about 10% of children are above the cut-off points. In the Hong Kong validation of the ECBI, the mean ECBI-intensity score and ECBI-problem score of a referral case group (children who were receiving treatment because of behaviour problems) were 129.15 and 12.38 respectively (Education and Manpower Bureau, 2002). The Eyberg and Pincus (1999) cut-off points are reasonably consistent with the findings of the validation of the Chinese version of the ECBI in Hong Kong (Education and Manpower Bureau, 2002) in that the cut-off scores are fairly close to the mean scores of the referral case group. The present results suggest that children with scores above the cut-off points are not restricted to any particular social class groups. An earlier survey of the prevalence of behaviour problems among Hong Kong children aged 36 to 48 months estimated the prevalence rate of mild behaviour disorder, moderate behaviour disorder and severe behaviour disorder to be 17.90%, 4.55% and 0.75% (Luk, Leung & Bacon-Shone et al, 1991). Patterson, Mockford, Barlow, Pyper and Stewart-Brown (2002), using a cut-off score of 127 on the ECBI, found that approximately one fifth of 2 to 8 year old children surveyed could be defined as having a clinically severe behaviour problem but Patterson et al (2002) only reported the percentage for ECBI intensity cut-off scores, and they did not report the percentage for combining both ECBI intensity and problem scores.

Campbell (1995), after examining studies on prevalence of problem behaviours in preschool children, concludes that the consensus is that roughly 10% to 15% of preschool children have mild to moderate problems. The present results are consistent with the figures of Campbell (1995).

For parenting stress, using the Abidin (1990) classification for PSI-PD and PSI-PCDI, about 31% of the participants were above the 90th percentile (PSI-PD - 36; PSI-PCDI - 27). The mean scores of the present survey, however, are fairly consistent with the means scores reported in the Chinese version of the PSI validation study (Lam, 1999) and the Hong Kong ECBI validation study (Education and Manpower Bureau, 2002). In the Education and Manpower Bureau (2002) study, the mean PSI-PD and PSI-PCDI scores of the referral case group were 34.76 and 32.58 respectively. Interestingly, in a study on mothers in mainland China using the PSI long form, 49% of the mothers of non-handicapped children scored above the Abidin (1990) cut-off point for referral for professional consultation (Pearson & Chan, 1993). In the Hong Kong Council of Social Service survey mentioned above, it was found that 55% of the participants claimed that they had extremely great or fairly great problems in parenting their children (Hong Kong Council of Social Service, 1999). Though the four PSI studies are conducted almost ten years apart in different societies, they show that the parenting stress scores of Chinese parents are relatively high, compared to the Abidin norms. There are three possible explanations. First, Chinese parents are experiencing clinically high stress and the scores are meaningful reflections of their degrees of stress. It is possible that Chinese parents may feel more pressure and anxiety about their parenting and their children's behaviour because in Chinese culture, which is collectivist, the behaviour of one family member is perceived as reflecting upon the whole family (Kagitcibasi, 1994; Triandis, 1990; Blair & Qian, 1998). Second, the norms for parenting stress among Chinese parents are different from the Abidin norms, which are based on a western sample. It should be pointed out that the sampling procedure for the norm sample of the original PSI was "not random or stratified and primarily represents an opportunistic approach to gathering data" (Abidin, 1990, p.25). Third, there might be culturally based response sets which might have affected the results. These possibilities need to be further investigated. With these uncertainties, firm conclusions about the prevalence rate of parenting stress in the present sample could not be drawn.

The same pattern is also observed for dysfunctional discipline style, where a large percentage of the participants reported high scores, compared to the norms provided by the original authors. However, it must be pointed out that the reliability of PS-LX is relatively low and care should be taken in the interpretation of the scores.

For parenting efficacy and marital relationship, the participants are reporting fairly high efficacy and relationship quality scores, with only a minority in the problem range. However, the norms are based on non-Chinese samples and care must be taken in interpretation.

4.4 Limitations

At this stage, it is important to point out the limitations of the present study.

First, this study covered only clients attending MCHCs. Though over 90% of parents of preschool children use MCHC service, the experiences and perceptions of 10% of the parents not using the service were not reflected in this study. There were also target participants who were not contactable (24.8% of all sent questionnaires). Furthermore, there were target participants who refused to participate (10.8% of all contactable target participants) and there were participants whose data were not included because of incomplete data (4.9% of all contactable target participants). There were some differences in socioeconomic and demographic factors between these participants (refusal and incomplete data cases) and the 942 participants whose data were analysed. Compared with the census figures, high income and well educated parents were less well represented in the present sample. These issues should be taken into consideration in the interpretation of the findings of the present study.

Second, the survey relied on participants to supply information about their income, educational level, occupation and health status, including mental illness. It is possible that there might be under-reporting of issues regarded as socially undesirable by participants.

Third, the questionnaires used in the present study were developed in western countries and they were in English originally. Though care had been taken in the translation, and back translation was used, where appropriate, only two of the questionnaires, the ECBI and PSI had been validated for use with the Hong Kong population. The scores of questionnaires on dysfunctional discipline style, parenting efficacy and marital relationship should be interpreted with caution as they had not been validated.

Fourth, as mentioned before, there were uncertainties with regard to the cut-off scores of the parenting questionnaires. As such, calculations of the prevalence rates of parenting problems would have to be treated with extreme caution and no conclusions should be drawn based on these cut-off points. On the other hand, the information collected is useful in understanding the relationship between family support, parenting variables and child behaviour problems, as well as factors related to family support, parenting variables and child behaviour problems. The present information could also be used as baseline data for future comparisons.

Fifth, being a cross-sectional survey, it is not possible to decide whether child behaviour problems, parenting and family support variables are the causes or the effect of access to parenting education programmes. In the present survey, there was no significant association between access to parenting education programmes, child behaviour problems, parenting and family support variables.

Finally, in this study, though it was found that parenting variables and family support variables were related to socioeconomic status, the various measures of socioeconomic status (educational level, occupation and income) were inter-related and this posed problems for statistical analysis. However, there is no validated composite measure of socioeconomic

status in Hong Kong such as the Townsend score.   This highlights the need to develop a valid composite measure of socioeconomic status suitable for use in Hong Kong.

4.5   Implications for service provision

In terms of service provision, the results indicate that more attention should be paid to several categories of parents.   There are 10% of children who may have clinically significant behaviour problems, which warrants further evaluation.   Effective intervention programmes will have to be provided for this group of children and their families.

It is clear that parents with low educational level, low occupational status and low income levels are experiencing considerable difficulties in parenting.   Services should be targeted towards this group of parents to give them support to deal with their parenting difficulties.

It is observed that fathers and younger parents are less likely to access parenting education.   Strategies should be devised to encourage more fathers and younger parents to participate in parenting education.

In terms of access points for parenting education, the present results suggest that parents are most likely to access parenting education information and service through schools and MCHCs, as they are very accessible and there is no stigma associated with attending these services.   It is clear that parents prefer booklets, books and one-off events or seminars, rather than courses of longer duration.   This suggests that booklets and one-off events should continue to be the main modes for delivery of parenting education at a population level.

It is obvious from the results that the availability of social support for parents is related to child behaviour problems and parenting difficulties.   In parenting education programmes, a workshop format would facilitate interaction and sharing among participating parents, which would help to build up social support among them.   Furthermore, services to provide and enhance social support for parents, such as parent support groups, parent self-help groups etc will help to build up social support among parents.

References

Abidin, R.R. (1990). *Parenting Stress Index – short form test manual*. Charlotteville, VA: Pediatric Psychology Press.

Achenbach, T.M. (1991). *Manual for the child behaviour checklist/4-18 and 1991 profile*. Burlington, VT: University of Vermont Department of Psychiatry.

Arnold, D.S., O'Leary, S.G., Wolff, L.S., & Acker, M.M. (1993). The parenting scale: a measure of dysfunctional parenting in discipline situations. *Psychological Assessment, 5*, 137-144.

Barkley, R.A., Fischer, M., Edelbrock, C. & Smallish, L. (1991). The adolescent outcome of hyperactive children diagnosed by research criteria-III. Mother-child interactions, family conflicts and maternal psychopathology. *Journal of Child Psychology and Psychiatry, 32*, 233-255.

Benzies, K.M., Harrison, M.J. & Magill-Evans, J. (1998). Impact of marital quality and parent-infant interaction on preschool behavior problems. *Public Health Nursing, 15*, 35-43.

Blair, S.L. & Qian, Z. (1998). Family and Asian students' educational performance: a consideration of diversity. *Journal of Family Issues, 19*, 353-374.

Campbell, S.B. (1995). Behaviour problems in preschool children: a review of recent research. *Journal of Child Psychology and Psychiatry, 36,*113-149.

Census and Statistics Department (2000). *Hong Kong annual digest of statistics*. Hong Kong SAR, People's Republic of China: Census and Statistics Department.

Census and Statistics Department (2002). *2001 Population census main report- volume 1*. Hong Kong SAR, People's Republic of China: Census and Statistics Department.

Department of Community and Family Medicine, The Chinese University of Hong Kong (1999). Press Release. Retrieved from http://www.cuhk.edu.hk/med/hep/English/ 1999b. html

Dunn, J. (1994). Family influences. In M. Rutter M. & D. Hay (Eds.), *Development through life*. (pp.112-133). Oxford, England: Blackwell Science.

Earls, F. (1994). Oppositional-defiant and conduct disorders. In M. Rutter, E. Taylor & L/ Hersov (Eds.), *Child and adolescent psychiatry: modern approaches*. (pp. 308-329). Bath, Avon: Blackwell Science Ltd.

Education and Manpower Bureau (2002). *Validation of the Chinese version of the Eyberg Child Behaviour Inventory for use in Hong Kong*. Unpublished manuscript.

Eyberg, S.M. & Ross, A.W. (1978). Assessment of child behaviour problems: the validation of a new inventory. *Journal of Clinical Psychology, 16*, 113-116.

Eyberg, S.M. & Pincus, D. (1999). *Eyberg Child Behaviour Inventory and Sutter-Eyberg Student Behaviour Inventory: Professional manual*. Odessa, FL: Psychological Assessment Resources.

Frosch, C.A. & Mangelsdorf, S.C. (2001). Marital behaviour, parenting behaviour, and

multiple reports of preschoolers' behaviour problems: mediation or moderation? *Developmental Psychology, 37*, 502-519.

Gibaud-Wallston, J. & Wandersman, L.P. (1978). *Development and utility of the parenting sense of competence scale.* Paper presented at the meeting of the American Psychological Association, Toronto.

Hong Kong College of Obstetricians and Gynaecologists (2000). *Territory-wide audit in Obstetrics and Gynaecology (1995-2000).*

Hong Kong Council of Social Service (1999). 有關家長教養子女之調查報告. [Report on parenting survey]. Retrieved on June 13 from www.hkcss.org.hk/views/survey/html.

Hong Kong Police - Police Public Relations Branch (1999). *Hong Kong police review.* Hong Kong SAR, People's Republic of China: Hong Kong Police Force.

Johnston, C. & Mash, E.J. (1989). A measure of parenting satisfaction and efficacy. *Journal of Clinical Child Psychology, 18*, 167-175.

Kagitcibasi, C. (1994). A critical appraisal of individualism and collectivism: toward a new formulation. In U. Kim, H.C. Triandis, C. Kagitcibasi, S.C. Choi & G. Yoon (Eds.), *Individualism and collectivism: theory, method and applications.* Thousand Oaks: Sage Publications.

Lam, D. (1999). Parenting stress and anger: the Hong Kong experience. *Child and Family Social Work, 4*, 337-346.

Lau, J.T.F., Yu, A., Cheung, J.C.K. & Leung, S.S.F. (2000). Studies on common illnesses and medical care utilization patterns of adolescents in Hong Kong. *Journal of Adolescent Health, 27*, 443-452.

Lee, S. & Lee, A.M. (2000). Disordered eating in three communities of China: a comparative study of female high school students in Hong Kong, Shenzhen and rural Hunan. *International Journal of Eating Disorder, 27*, 317-327.

Leung, C., Sanders, M. & Leung, S. (2002, July). *Evaluation of a cognitive-behaviorist family intervention program in a Chinese community.* Paper presented at the International Congress of Applied Psychology, Singapore, July 7 – 12, 2002.

Leung, P.W., Luk, S.L., Ho, T.P., Taylor, E., Mak, F.L. & Bacon-Shone, J. (1996). The diagnosis and prevalence of hyperactivity in Chinese schoolboys. *The British Journal of Psychiatry, 168*, 486-496.

Loeber, R. & Hay, D.F. (1994). Developmental approaches to aggression and conduct problems. In M. Rutter M. & D. Hay (Eds.), *Development through life* (p. 488-516). Oxford, England: Blackwell Science

Luk, S.L., Leung, P.W.L., Bacon-Shone, J., Chung, S.Y., Lee, P.W.H., Chen, S., et al. (1991). Behaviour disorder in pre-school children in Hong Kong: a two-stage epidemiological study. *British Journal of Psychiatry, 158,* 213-221.

McGee, R., Prior, M., Wiliiams, S., Smart, D. & Sanson, A. (2002). The long-term significance of teacher-rated hyperactivity and reading ability in childhood: findings

from two longitudinal studies. *Journal of Child Psychology and Psychiatry, 43,* 1004-1017.

Moffit, T.E. & Caspi, A. (2001). Childhood predictors differentiate life-course persistent and adolescence-limited antisocial pathways among males and females. *Development and Psychopathology, 13,* 355-375.

Narcotics Division, Government Secretariat (2001). *Central Registry of Drug Abuse. Forty-seventh Report.* Hong Kong SAR, People's Republic of China: Narcotics Division, Government Secretariat.

Norton, R. (1983). Measuring marital quality: a critical look at the dependent variable. *Journal of Marriage and the Family, 45,* 141-151.

Olds, D.L. (1988). The prenatal early infancy project. In R.H. Price, E.L. Cowen, R.P. Lorion & J. Ramos-McKay (Eds.), *14 ounces of prevention: a casebook for practitioners* (pp. 9-23). Washington DC: American Psychological Association.

Patterson, G.R., Forgatch, M.S., Yoerger, K.L. & Stoolmiller, M. (1998). Variables that initiate and maintain an early-onset trajectory for juvenile offending. *Development and Psychopathology, 18,* 531-547.

Patterson, J., Mockford, C., Barlow, J., Pyper, C. & Stewart-Brown, S. (2002). Need and demand for parenting programmes in general practice. *Archives of Disease in Childhood, 87,* 468-471.

Pearson, V. & Chan, T.W.L. (1993). The relationship between parenting stress and social support in mothers of children with learning disabilities: a Chinese experience. *Social Science Medicine, 37,* 267-274.

Samaritan Befrienders website (2001). www.sbhk.org.hk/English/e-statistics & suicide analysis003.htm.

Stewart, S.M., Lam, T.H., Beston, C. & Chung, S.F. (1999). Suicide ideation and its relationship to depressed mood in a community sample of adolescents in Hong Kong. *Suicide and Life Threatening Behavior, 29,* 227-240.

Tabachnick, B.G. & Fidell, L.S. (1989). *Using multivariate statistics* (2nd ed.). New York: Harper Collins Publishers.

The Boys' and Girls' Clubs Association of Hong Kong (1992). *Why are some parents more irritable? A study of cognitive and social correlates of anger proneness in parenting.* The Boys' and Girls' Clubs Association of Hong Kong.

Triandis, H.C. (1990). Theoretical concepts that are applicable to the analysis of ethnocentrism. In R.W. Brislin (Ed.), *Applied cross-cultural psychology.* Newbury Park: Sage Publications.

Turner, K.M.T., Markie-Dadds, C., Sanders, M.R. (2002). *Facilitator's manual for group Triple P.* Milton, QLD, Triple P International Pty. Ltd.

Webster-Stratton, C. & Taylor, T. (2001). Nipping early risk factors in the bud: preventing substance abuse, delinquency, and violence in adolescence through interventions

targeted at young children (0-8 years).   *Prevention Science, 2*, 165-192.

Webster-Stratton, C. & Hancock, L. (1998).   Training for parents of young children with conduct problems: content, methods, and therapeutic processes.   In J.M. Briesmeister, & C.E. Schaefer (Eds.), *Handbook of parent training: parents as co-therapists for children's behaviour problems* (2nd ed.) (pp. 98-152).   NY, USA: John Wiley & Sons.

Wong, C.K. & Lau, J.T.F. (1992). Psychiatric morbidity in a Chinese primary school in Hong Kong.   *Australian and New Zealand Journal of Psychiatry, 26*, 45-466.

Statistical details

Child behaviour profile

MANOVA results on ECBI and sex of target child

	F	*df*	Significance
Multivariate test	8.34	2, 939	< .001
Univariate tests			
ECBI-intensity	15.93	1, 940	< .001
ECBI-problem	3.12	1, 940	*ns*

MANOVA results on ECBI and mother's educational level

	F	*df*	Significance
Multivariate test	3.38	10, 1866	< .001
Univariate tests			
ECBI-intensity	2.81	5, 933	< .05
ECBI-problem	1.34	5, 933	*ns*

Family support profile - social support

Social support (childcare in emergency) and socioeconomic factors

	χ^2	*df*	Significance
Childcare assistance	37.75	4	< .001
Family income	36.49	5	< .001
Mother's working status	18.38	1	< .001

Social support (someone to share) and socioeconomic factors

	χ^2	*df*	Significance
CSSA	18.27	1	< .001
Father's educational level	26.25	5	< .001

Social support (financial assistance) and socioeconomic factors

	χ^2	*df*	Significance
CSSA	17.23	1	< .001
Family income	63.92	5	< .001
Father's occupation	39.57	5	< .001
Father's educational level	32.32	5	< .001
Mother's educational level	33.93	5	< .001
Mother's working status	17.37	1	< .001

Family support profile - marital relationship

ANOVA results on RQI and father's educational level

F	df	Significance
4.52	5, 925	< .001

Post hoc test (Scheffe) for RQI and father's educational level

	Primary or no education	Lower secondary	Upper secondary	Matriculation	Tertiary (non-degree)	Tertiary (degree)
Primary or no education						✓
Lower secondary						✓
Upper secondary						
Matriculation						
Tertiary (non-degree)						
Tertiary (degree)						

Parenting profile – parenting stress

MANOVA results on PSI and type childcare assistance

	F	df	Significance
Multivariate test	6.09	8, 1874	< .001
Univariate tests			
PSI-PD	6.74	4, 937	< .001
PSI-PCDI	10.11	4, 937	< .001

Post hoc test (Scheffe) for PSI-PD (⊕), PSI-PCDI (⬦) and type of childcare assistance

	Grandparents	Relatives	Domestic helper	Hired childcare	No assistance
Grandparents			⊕ ⬦		
Relatives			⊕ ⬦		
Domestic helper					
Hired childcare					
No assistance			⊕ ⬦		

MANOVA results on PSI and father's educational level

	F	*df*	Significance
Multivariate test	7.37	10, 1858	< .001
Univariate tests			
PSI-PD	7.44	5, 929	< .001
PSI-PCDI	13.61	5, 929	< .001

Post hoc test (Scheffe) for PSI-PD (⊞), PSI-PCDI (⊕) and father's educational level

	Primary or no education	Lower secondary	Upper secondary	Matriculation	Tertiary (non-degree)	Tertiary (degree)
Primary or no education			⊕	⊕	⊞ ⊕	⊞ ⊕
Lower secondary						⊞ ⊕
Upper secondary						⊞ ⊕
Matriculation						
Tertiary (non-degree)						
Tertiary (degree)						

MANOVA results on PSI and mother's educational level

	F	*df*	Significance
Multivariate test	7.72	10, 1866	< .001
Univariate tests			
PSI-PD	6.89	5, 933	< .001
PSI-PCDI	13.54	5, 933	< .001

Post hoc test (Scheffe) for PSI-PD (⊞), PSI-PCDI (⊕) and mother's educational level

	Primary or no education	Lower secondary	Upper secondary	Matriculation	Tertiary (non-degree)	Tertiary (degree)
Primary or no education			⊕	⊕	⊕	⊞ ⊕
Lower secondary			⊞		⊕	⊞ ⊕
Upper secondary						⊕
Matriculation						
Tertiary (non-degree)						
Tertiary (degree)						

MANOVA results on PSI and father's occupation

	F	*df*	Significance
Multivariate test	6.91	10, 1854	< .001
Univariate tests			
PSI-PD	7.23	5, 927	< .001
PSI-PCDI	12.86	5, 927	< .001

Post hoc test (Scheffe) for PSI-PD (⊞), PSI-PCDI (⟠) and father's occupation

	Managerial/ administrative	Professional	Clerical	Sales/ service	Skilled/ manual	Non-working
Managerial/ administrative					⊞ ⟠	
Professional					⊞ ⟠	⟠
Clerical						
Sales/ service						
Skilled/ manual						
Non-working						

MANOVA results on PSI and mother's occupation

	F	*df*	Significance
Multivariate test	5.00	10, 1864	< .001
Univariate tests			
PSI-PD	5.04	5, 932	< .001
PSI-PCDI	7.89	5, 932	< .001

Post hoc test (Scheffe) for PSI-PD (⊞), PSI-PCDI (⬦) and mother's occupation

	Managerial/ administrative	Professional	Clerical	Sales/ service	Skilled/ manual	Non-working
Managerial/ administrative				⬦		⬦
Professional						⊞
Clerical						
Sales/ service						
Skilled/ manual						
Non-working						

MANOVA results on PSI and family income

	F	*df*	Significance
Multivariate test	7.95	10, 1864	< .001
Univariate tests			
PSI-PD	8.00	5, 932	< .001
PSI-PCDI	14.87	5, 932	< .001

Post hoc test (Scheffe) for PSI-PD (⊞), PSI-PCDI (⬦) and family income

	<$4,000	$4,000 -9,999	$10,000 -19,999	$20,000 -29,999	$30,000 -39,999	>=$40,000
<$4,000						⬦
$4,000-9,999					⬦	⊞ ⬦
$10,000-19,999					⬦	⊞ ⬦
$20,000-29,999						⬦
$30,000-39,999						
>=$40,000						

Parenting profile - dysfunctional discipline style

MANOVA results on PS and type of childcare assistance

	F	*df*	Significance
Multivariate test	3.85	8, 1874	< .001
Univariate tests			
PS-LX	2.41	4, 937	< .05
PS-OR	4.13	4, 937	< .005

Post hoc test (Scheffe) for PS-LX (✧), PS-OR (✪) and type of childcare assistance

	Grandparents	Relatives	Domestic helper	Hired childcare	No assistance
Grandparents					
Relatives			✪		
Domestic helper					
Hired childcare					
No assistance			✪		

MANOVA results on PS and mother's educational level

	F	df	Significance
Multivariate test	5.97	10, 1866	< .001
Univariate tests			
PS-LX	4.95	5, 933	< .001
PS-OR	4.84	5, 933	< .001

Post hoc test (Scheffe) for PS-LX (✧), PS-OR (✪) and mother's educational level

	Primary or no education	Lower secondary	Upper secondary	Matriculation	Tertiary (non-degree)	Tertiary (degree)
Primary or no education						✧ ✪
Lower secondary						✧ ✪
Upper secondary						
Matriculation						
Tertiary (non-degree)						
Tertiary (degree)						

MANOVA results on PS and father's educational level

	F	df	Significance
Multivariate test	6.20	10, 1858	< .001
Univariate tests			
PS-LX	3.75	5, 929	< .005
PS-OR	6.55	5, 929	< .001

Post hoc test (Scheffe) for PS-LX (✧), PS-OR (✪) and father's educational level

	Primary or no education	Lower secondary	Upper secondary	Matriculation	Tertiary (non-degree)	Tertiary (degree)
Primary or no education				✪		✪
Lower secondary						✪
Upper secondary						
Matriculation						
Tertiary (non-degree)						
Tertiary (degree)						

MANOVA results on PS and mother's occupation

	F	df	Significance
Multivariate test	5.09	10, 1864	< .001
Univariate tests			
PS-LX	3.39	5, 932	= .005
PS-OR	5.24	5, 932	< .001

Post hoc test (Scheffe) for PS-LX (✧), PS-OR (✪) and mother's occupation

	Managerial/ administrative	Professional	Clerical	Sales/ service	Skilled/ manual	Non-working
Managerial/ administrative						✪
Professional				✧		✪
Clerical						
Sales/ service						
Skilled/ manual						
Non-working						

MANOVA results on PS and father's occupation

	F	df	Significance
Multivariate test	5.00	10, 1854	< .001
Univariate tests			
PS-LX	1.29	5, 927	ns
PS-OR	7.27	5, 927	< .001

Post hoc test (Scheffe) for PS-LX (✧), PS-OR (✪) and father's occupation

	Managerial/ administrative	Professional	Clerical	Sales/ service	Skilled/ manual	Non-working
Managerial/ administrative						
Professional				✪	✪	✪
Clerical						
Sales/ service						
Skilled/ manual						
Non-working						

MANOVA results on PS and family income

	F	*df*	Significance
Multivariate test	7.09	10, 1864	< .001
Univariate tests			
PS-LX	5.04	5, 932	< .001
PS-OR	6.81	5, 932	< .001

Post hoc test (Scheffe) for PS-LX (✧), PS-OR (✪) and family income

	<$4,000	$4,000 –9,999	$10,000 -19,999	$20,000 -29,999	$30,000 -39,999	>=$40,000
<$4,000						
$4,000-9,999					✪	✧ ✪
$10,000-19,999						✧ ✪
$20,000-29,999						
$30,000-39,999						
>=$40,000						

Relationship between child behaviour problems, parenting variables and family support variables

T test results on RQI, parenting efficacy and social support

Type of social support	t	df	Significance
Childcare in emergency and RQI	4.49	935	$< .001$
Someone to share and RQI	8.41	935	$< .001$
Financial assistance and RQI	6.65	935	$< .001$
Someone to share and parenting efficacy	4.40	939	$< .001$

MANOVA results on PSI and social support (emergency childcare)

	F	df	Significance
Multivariate test	15.65	2, 938	$< .001$
Univariate tests			
PSI-PD	27.25	1, 939	$< .001$
PSI-PCDI	18.45	1, 939	$< .001$

MANOVA results on PSI and social support (someone to share)

	F	df	Significance
Multivariate test	41.13	2, 938	$< .001$
Univariate tests			
PSI-PD	73.90	1, 939	$< .001$
PSI-PCDI	43.31	1, 939	$< .001$

MANOVA results on PSI and social support (financial assistance)

	F	df	Significance
Multivariate test	26.35	2, 938	$< .001$
Univariate tests			
PSI-PD	47.52	1, 939	$< .001$
PSI-PCDI	28.10	1, 939	$< .001$

MANOVA results on PS and availability of support (someone to share)

	F	df	Significance
Multivariate test	11.14	2, 938	$< .001$
Univariate tests			
PS-LX	.40	1, 939	*ns*
PS-OR	19.88	1, 939	$< .001$

MANOVA results on PS and availability of support (financial assistance)

	F	df	Significance
Multivariate test	7.85	2, 938	< .001
Univariate tests			
PS-LX	4.97	1, 939	< .05
PS-OR	7.60	1, 939	< .01

MANOVA results on ECBI and social support (someone to share)

	F	df	Significance
Multivariate test	8.88	2, 938	< .001
Univariate tests			
ECBI-intensity	14.46	1, 939	< .001
ECBI - problem	14.16	1, 939	< .001

Parenting education experience

ANOVA results on access to parenting education and parents' ages

	F	df	Significance
Father's age	8.19	2, 930	< .001
Mother's age	12.31	2, 934	< .001

Post hoc test (Scheffe) for access to parenting education and father's age (♀) and mother's age (♀)

	Often	Sometimes	Never
Often			♀ ♀
Sometimes			♀ ♀
Never			