Institut de la statistique Québec

QUÉBEC LONGITUDINAL STUDY OF CHILD DEVELOPMENT (QLSCD 1998-2002)

FROM BIRTH TO 29 MONTHS

Evolution of Parental Perceptions and Behaviours

COLLECTION Health and Wellness

Volume 2, Number 9

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Foreword

The publication of this second volume of the QLSCD 1998-2002 series is the result of close collaboration among university researchers, the public health network and the *Direction Santé Québec*[1] (Health Québec Division) of the *Institut de la statistique du Québec* – ISQ (Québec Institute of Statistics), who have been working on this project since 1996.

Two years after the publication of Volume 1 in this series, an interdisciplinary group of more than 80 researchers contributed to producing this second volume, which presents the very first longitudinal results of our survey. These much-anticipated results describe the environment and development of the children based on the first three data collections conducted when they were 5, 17 and 29 months of age. To fully comprehend the importance of these data on early childhood, I would like to remind the reader of the primary goal of the Québec Longitudinal Study of Child Development 1998-2002 as stated in Volume 1 of this series. The QLSCD will help gain a better understanding of the PRECURSORS of social adjustment by first studying adjustment to school, identifying adjustment PATHS and PROCESSES, and examining the CONSEQUENCES of these later in life.

By analyzing data from the first three years of the survey, the ISQ is pleased to be associated with the development of a such powerful survey and research instrument, and particularly with the accomplishment of a study that will serve both as a preventive tool and an aid in the design of effective early interventions. As Director General, I cannot help but take great pride in the model of partnership which has produced such impressive results, many of which may indeed be harbingers of the future.

Yvon Fortin
Director General

1. Certain French appellation in italics in the text do not have official English translations. The first time one of these appears, the unofficial English translation is shown immediately after it. Following this, for ease in reading, only the official French name appears in the text in italics and it is suggested the reader refer to the Glossary for the English translation.

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This analytical paper is also available in French. (Ce numéro et aussi disponible en version française sous le titre « Évolution des perceptions et des conduites parentales » dans *Étude longitudinale du développement des enfants du Québec (ÉLDEQ 1998-2002) – De la naissance à 29 mois*, Québec, Institut de la statistique du Québec, vol. 2, n^{o} 9).

A Word of Caution, Symbols and Abbreviations can be found in Section "Review of the Methodology and Caution"

Acknowledgements

Given that the QLSCD 1998-2002 has been in existence for more than six years, the task of thanking each person who has collaborated on the project seems daunting, and frankly, nearly impossible. Each year new colleagues join those who have been with us from the very beginning, and they in turn have faced innumerable logistical and methodological challenges, whether in terms of the contents of the survey or navigating their way through a world of knowledge which is in a state of constant progress.

Indeed, the network of university researchers associated with the QLSCD now stretches across Québec to include the rest of Canada and beyond our nation's borders. Hence the wealth of data from this survey is being disseminated through a variety of channels, whether in post-doctoral work being pursued by young researchers outside of Québec, or the multiplier effect of seasoned veterans constantly establishing new international working relationships in this era of the globalization of knowledge. This multiplication of partnerships is closely linked to the exceptional leadership shown by the scientific director of the QLSCD. In addition to contributing to the advance of knowledge, our "conglomerate" of research teams has resulted in the injection of significant funds devoted to analyzing the wealth of data being generated. Indeed, the pooling of research funds obtained through the excellence of the scholars involved has maximized the investment in the QLSCD 1998-2002 by the *ministère de la Santé et des Services sociaux*, sole sponsor of the project's 10 data collections, surveys and pretests.

New partners in our public health network are constantly joining this ever-expanding group of researchers. Increasing numbers of health professionals are becoming actively involved in the QLSCD, coming from the *ministère de la Famille et de l'Enfance* (Ministry of Family and Child Welfare), the education network, etc.

The increase in the number of external experts and growing complexity of this first provincial longitudinal study has led to more ISQ staff devoting their time, in whole or in part, to the QLSCD. New statisticians from the *Direction de la méthodologie et des enquêtes spéciales – DMES* are now associated with the survey. Their tasks include addressing all questions related to the sample design, analyzing the results of the annual data collections in terms of response rates, and producing the weights required to infer the results to the population of children targeted by this large-scale survey. They also provided support to QLSCD researchers in conducting statistical analyses published in this report. With regards to the *Direction Santé Québec (DSQ)*, chief architect of the QLSCD, it was necessary to hire two people experienced in longitudinal analyses to consolidate the rather small team who have been overseeing the surveys year after year, with all the intense concentration of energy this implies. By coordinating the work of numerous partners, developing new tools and instruments to understand the real world of the growing child, closely collaborating with the survey firm collecting the data, and participating in the dissemination of knowledge by publishing original analyses, the seven members of the *Direction Santé Québec* QLSCD team have accomplished their mission with remarkable success.

Over the years, another partnership that continues to flourish is the one we have with the coordinators of the National Longitudinal Study of Children and Youth (NLSCY, Canada). The fact that these pioneers allowed the QLSCD to use certain instruments administered by the CAPI (Computer Assisted Personal Interview) has meant that our Québec longitudinal study is complementary and comparable to this large-scale Canadian study, and at a reasonable cost.

Québec hospitals, who continually face many challenges because of increasing demands for efficiency, are also important partners in our study, as are birthing centres. They manage to weather whatever storms they face by continuing each year to provide certain data from the medical records of the mothers and children. These data are sent to us with the strict proviso that the mothers have furnished prior written consent.

The *Bureau d'interviewers professionnels (BIP)*, the survey firm, continues to be an indispensable partner in arranging and conducting this first large-scale survey of a cohort of Québec children. BIP, masterfully managed with a hands-on approach by its president, is responsible for organizing and ensuring the smooth functioning of the annual data collections in both the pretests and surveys. Their data is of invariably high quality, and the data banks they produce biannually retain a high degree of reliability. BIP's team of interviewers[2] and recruiters, skilfully supervised by a seasoned veteran of field work, has become expert in winning and maintaining the loyalty of the some 2,000 families who annually participate.

Finally, we would like to single out the exceptional participation of Québec families. We truly believe that the success of the QLSCD comes first and foremost from the hours of precious time they grant us every year, during which we feel privileged to share moments in the lives of their little munchkins who, in 2000, were 2½ years of age.

Acknowledging how difficult it is to truly thank everyone who contributed to the day-to-day accomplishment of this Québec first, we would like to cite the words of Serge Bouchard:

> Progress is a totally collective process in both time and space. We owe so much to others... We desire a society of good people..., because there is a link between individual and collective excellence.[3]

A heartfelt thank-you!

Mireille Jetté
Coordinator
Direction Santé Québec,
Institut de la statistique du Québec

2. All the interviewers in this survey were women.

3. BOUCHARD, Serge (2001). "Je ne suis pas seul sur terre", *Le Devoir Édition Internet*, 23 juillet. (Unofficial translation).

Introduction to the QLSCD 1998-2002

When this second report is published, the children in the QLSCD study will have begun their fifth year on this planet. Despite the use of extraordinary tools to closely monitor their development, it is obvious that, in early childhood, development is too fast for science to keep up with.

In our first report, we described our observations concerning the data collected five months after birth. Because of the cross-sectional nature of these observations, our study was limited to describing the characteristics of the children and their families. We mainly wanted to describe the situation of babies born in Québec in 1997 and 1998. Bursting with enthusiasm and eager to understand things, the researchers who, at the time, provided the broad strokes of analyses to explain the observed characteristics were fully aware those were just the first in a long series of analyses designed to provide a deeper understanding of children's development.

This second report, however, is based on the collective data gathered when the children were respectively 5, 17 and 29 months old. At last, we can now describe the changes that occur in the lives of children and their families from birth to the third year. This is the first time that such a large sample of Québec newborns has been studied as intensively during early childhood. As far as we know, this is the very first time since science began studying children's developmental that researchers have tried to understand the factors leading to academic success or failure by collecting data as frequently as this from such a large sample of such young children.

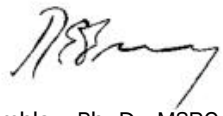
Researchers now have available more data than ever before about this stage of life. But this abundance of data has a perverse effect. If cross-sectional studies allow us to draw conclusions on the causes of problems observed, why shouldn't we go ahead and indulge in longitudinal data as well? When one has access to data available to no one else, it is easy to forget the limitations of such data. However, while the researchers involved in drafting this report tried to obtain the maximum benefit from prospective longitudinal data collected at three different stages during early childhood (at 12-month intervals), they also accepted to respect the limitations of this data.

This prospective longitudinal study allows us to describe the changes over time for each measured variable concerning each individual. The researchers thus recorded the changes during the first three years of the children's lives. Profiles of children, parents and families as well as some developmental trajectories were drawn based on the data collected during these three stages. These original results should facilitate discerning the beginning of the course taken by the children and their families. However, it is important to remember that these results only described the first three points of a curve that ideally should comprise fifteen points of time. Since in most cases, it is not very likely that behaviour is consolidated at 2½ years, we asked the authors to primarily limit themselves to describing the development of observable changes. It is obviously too early in the child's life for us to attempt causal analyses in order to identify determinants, especially since these would only be associations. Finally, whenever we approach a problem, our questions are generally much too simplistic. Longitudinal studies such as the QLSCD indicate that there are many ways to observe a problem and that it is dangerous to draw definitive conclusions after the first analyses, no matter how brilliant these appear to be.

It is important to remember that the main objective of the QLSCD is to understand the paths during early childhood that lead to success or failure once the child enters the school system. In order to successfully reach this objective, we must obviously wait for information collected once the child begins school. The QLSCD children will complete their first school year in the spring of 2005. At the time when this report will be published, they will be old enough to enter Junior Kindergarten, which some of them will do in September 2002. Data collection is also planned for the end of Junior Kindergarten year (spring 2003) and at the end of Senior Kindergarten (spring 2004). If, as desired, these significant data collections are funded, the information generated will allow us to check the level of preparation for school at the entry into the first cycle of elementary school. Later during

this longitudinal study, description of the developmental trajectories of these children is planned throughout their school years. If, following the example of many researchers in Québec, the Québec Government confirms its financial involvement in pursuing QLSCD throughout the children's elementary and secondary school, we can increase our understanding of the factors that lead to academic success and therefore be in the best possible position to improve support to the all-too-many children for whom school is an endless succession of failures.

Through recent discoveries about the development of the human brain, we have come to see the importance of investing early in children's development, just as it is important to invest early in our pension plans. Longitudinal studies on the development of children must obviously be based on the same principle. They must begin as soon as possible, and this is what the *ministère de la Santé et des Services sociaux* did as early as 1997, by investing nearly $5 million in a study on Québec children aged 5 to 54 months old. And obviously, just like for a pension plan, in order for these investments to bear fruit and provide the best possible returns, they must be maintained and even increased.



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Review of Methodology and Caution

The Québec Longitudinal Study of Child Development (QLSCD 1998-2002), launched in 1998, is being conducted on a cohort of nearly 2,000 children surveyed annually from the age of 5 months to approximately 4 years. This second volume covers longitudinal data from the first three rounds when the children were approximately 5, 17 and 29 months of age respectively.

The longitudinal analyses of data collected in the 1998, 1999 and 2000 rounds allow inferences to be made to the population of children born in Québec in 1997 and 1998 (singleton births) who in 2000 were still living in Québec or who had only left the province temporarily. Therefore, in terms of the methodological approach, choosing not to sample children from those who arrived in Québec after birth limits inferences to this population.

Participation of families in the 1999 and 2000 rounds of QLSCD was excellent. Indeed, 94% of families who participated in the 1998 round continued to participate in the second and third rounds, for a 71%[1] longitudinal response rate for the two main questionnaires, the Interviewer Completed Computerized Questionnaire (ICCQ) and the Interviewer Completed Paper Questionnaire (ICPQ). Response rates for the Self-Administered Questionnaire for the Mother (SAQM) and Self-Administered Questionnaire for the Father (SAQF) remained stable from 1998 to 2000, namely 96% for the former and 90% for the latter, among annual respondents to the ICCQ. However, since respondent families were not necessarily the same from one round to the next, the weighted proportion of families who participated in all the rounds was lower, namely 92% for the SAQM and 83% for the SAQF, among respondents to the ICCQ in all three rounds (n = 1,985). The longitudinal response rates of these instruments, obtained by multiplying the weighted proportion of longitudinal respondents to the SAQM or SAQF by the longitudinal response rate of the ICCQ, were 65% and 59% respectively.

1. The unweighted number of families who responded to QLSCD went from 2,120 in 1998 to 2,045 in 1999, to 1,997 in 2000. The number of families who participated in the three rounds of the survey was 1,985 (namely 94% of the 2,120 families in the first round).

It was decided to minimize potential biases induced by non-response by adjusting the weights based on characteristics differentiating respondents from non-respondents for the five major instruments of QLSCD – the ICCQ, ICPQ, SAQM, SAQF and the IST (Imitation Sorting Task testing cognitive development). Since only respondents to the 1998 round were eligible for longitudinal study, longitudinal weights were based on the cross-sectional weights of the ICCQ calculated in 1998. In addition, for longitudinal analyses involving data from the SAQM, SAQF or IST, an additional adjustment to the weights was required to compensate for overall longitudinal non-response in each of these instruments. Unfortunately, in the third round as in the first, even though the response rates of non-resident fathers improved, it was impossible to weight their data since response rates to the SAQFABS were still too low.

Moreover, given QLSCD's complex sample design, it was important that the variance associated with the estimates was correctly identified. This required using a software program that could take into account the complex sample design, otherwise the variance would tend be underestimated, thereby resulting in a threshold of statistical significance that would be too low. SUDAAN (Survey Data Analysis; Shah *et al.*, 1997) was therefore used for prevalence estimates, chi-square tests, repeated measures analyses of variance, linear regressions, logistic regressions and Cox regressions. The threshold of significance for these statistical tests was set at 0.05. With regards to other tests not supported by SUDAAN such as the McNemar, the threshold was lowered to 0.01 to prevent identifying results as significant that might not be, given the complex sample design.

All the data presented that have a coefficient of variation (CV) higher than 15% are accompanied by one or two asterisks to clearly indicate their variability.

N.B. For further information on the survey's methodology, please read Number 1 of both Volume 1 and Volume 2. For more detailed information on the sources and justifications of questions used in the first three rounds of QLSCD as well as the components of the scales and indexes, please read Number 12 of both Volume 1 and Volume 2.

Caution

Unless indicated otherwise, “n” in the tables represents the sum of the individual weights reset to the size of the initial sample. This quantity is used to estimate the prevalences, and is slightly different from the real sample, namely the number of children in a given sub-group. In the body of the text, the number presented to describe the sample size also represents the sum of the individual weights reset to the size of the initial sample. This occurs when an analysis concerns a particular sub-group. The weighted frequency in these cases serves only as a link with the tables. The real sample size, and coefficient of variation remain the quantity to interpret as far as the precision of the estimates is concerned.

Because the data were rounded off, totals do not necessarily correspond to the sum of the parts.

Unless explicitly stated otherwise, all the differences presented in this report are statistically significant to a confidence level of 95%.

To facilitate readability, proportions higher than 5% were rounded off to the nearest whole unit in the text, and to the nearest decimal in the tables and figures.

Symbols

.. Data not available
... Not applicable (N/A)
- Nil or zero
p < Refers to the threshold of significance

Abbreviations

CV	Coefficient of variation
Not signif.	Not significant

Evolution of Parental Perceptions and Behaviours

1. Introduction

The role of a parent is very demanding both physically and psychologically, particularly during the months immediately following the birth of a new child. This role is even more difficult today because of the demands of the labour market, the increasing instability of conjugal unions and the complexity of the resulting reconstituted families. Despite all of the obstacles, most parents come through this period with flying colours. However, for a variety of reasons linked to family context, parenting abilities or the characteristics of the child, a minority of parents may encounter difficulties in providing for care of their infant. When these difficulties lead to practices that may hinder the development of the child, they must be quickly identified to better understand the specific factors and mechanisms involved and to take appropriate steps to intervene.

There is no consensus as to the mechanisms by which parenting behaviours influence child development, but these mechanisms are certainly complex and multi-faceted. The personality of the parents, the personal history of each parent, as well as the actual socioeconomic pressures (for example, economic hardship; Conger *et al.,* 1992, 1993; McLoyd, 1998) may directly influence parenting behaviour. These factors may also indirectly influence the parents' perceptions and beliefs regarding their child-rearing abilities as well as their expectations of the impact of their parenting activities. The perceptions and parenting behaviours interact with the characteristics and behaviours of the child in a complex manner to influence the parent-child dynamic throughout the child's youngest years (Parke and Buriel, 1998; Teti and Gelfand, 1991; Thompson, 1998).

Within this context it seemed appropriate to examine parental perceptions and behaviours in the first round of the Québec Longitudinal Study of Child Development (QLSCD 1998-2002), which took place when the target children were about 5 months old. We therefore developed a self-administered assessment tool for evaluating specific parenting perceptions and behavioural tendencies, dimensions that reflected the quality of the parent's involvement with their infant. Although similar measures have been proposed (see, for example, Abidin, 1986; Thomasgard *et al.*, 1995; Deutsch *et al.*, 1988; Dumka *et al.*, 1996; Wells-Parker *et al.*, 1990), these deal with older children, cover a wide range of ages or examine dimensions that are overly general and thus less pertinent to infants.

Initially, six dimensions were examined using the Parental Perceptions and Behaviours Regarding the Infant/Child Scale, PPBS, which was administered to both parents. The six dimensions were parental self-efficacy, perception of parental impact, parental coercive behaviours, parental overprotection, parental affection and perception of the qualities of the infant. The first two dimensions refer to the beliefs and perceptions of the parent with respect to her or his role in caring for the child (that is, parental self-efficacy and perception of parental impact). The next three pertain to specific self-reported parental behaviours, that is, to mother's or father's attitudes and behaviours reflecting reactive hostility, protectiveness and affection toward the child (parental coercive behaviours, parental overprotection and parental affection). A last dimension refers to the parent's perception of the qualities of the infant, in particular, in relation to physical attractiveness and cognitive abilities.

2. Portrait of the PPBS and Its Correlates at 5 Months

In a preliminary report (Boivin *et al.*, 2000), we presented a portrait of parental perceptions and behaviours as well as some of their correlates based on data from the 1998 round of the QLSCD, conducted when the target infants were about 5 months old. Those preliminary analyses confirmed the usefulness of four dimensions on the PPBS, namely, parental self-efficacy, perception of parental impact, parental coercive behaviours and parental overprotection. These dimensions provided a clear factor structure, sensitive and reliable scale scores (although with a strong bias to the left for coercive behaviours), as well as independent and coherent associations with a variety of characteristics of the household, the parent and the child. However, this was not the case for parental affection — the pleasure and warmth felt and shown by the parent while interacting with the infant — as the scores were not a sensitive measure (i.e., there was a marked ceiling effect on those scores) and did not cluster on a unique factor. Consequently, that dimension was not retained for the remaining analyses and is not examined in this paper.

For the correlates, a series of multiple regression analyses revealed a multi-faceted portrait for four of the five remaining PPBS dimensions. The analyses took into account a variety of factors associated with the child, the father and/or the mother, as well as with the family and cultural context: the gender of the child, whether he/she had a difficult temperament, whether he/she was the first child in the family, the parent's age, depressed mood, level of education, ethnocultural status, insufficient household income and, for the mothers, perceived conjugal support and whether she was a single parent. Parental self-efficacy was specifically associated with the fact of having a child with difficult temperament and perceived conjugal support, while the perception of parental impact was associated with low educational levels and with the condition of being a non-European immigrant (note: only the items with Beta scores higher than 0.10 are discussed here). Although weakly prevalent, coercive behaviours were correlated with the infant's difficult temperament and parental depression. Interestingly, several factors were associated with parental overprotection: low level of education, insufficient income and the condition of being a non-European immigrant. The results of the evaluation of the qualities of the infant were less conclusive, however; the parental evaluation was associated, for the mothers as well as for the fathers, with the condition of the child being the first born. Given the lack of concurrent validity of this perception and the space limitations here, the fifth dimension is not examined in this paper.

It would appear that the unique characteristics of the child joined with the factors of family context and parental characteristics in accounting for the parents' self-efficacy and their coercive behaviours by the time the infant was 5 months old. The perception of parental impact and parental overprotection were specifically associated with the characteristics of the parent (education level and immigrant status) and, to a lesser extent, with those related to the household (income). These results provided ample reason to pursue the longitudinal analyses of these dimensions to examine the extent to which parental perceptions and behaviours play a role in the emergence of adjustment problems in children. One of the objectives of the QLSCD is to better understand the mechanisms by which adverse conditions negatively influence child development.

Indeed, there are good reasons to think that parenting perceptions and behaviours do play a central role. However, before examining the mechanisms, it is important to describe the evolution of parental perceptions and behaviours during early childhood, when the parents constitute the child's proximate environment, that is, from about 5 to 29 months of age in the present study. Important changes may take place during this period. When an infant is 5 months old, parental perceptions may have not yet crystallized — the parents are still adjusting to the new context created by the recent arrival of a new infant. Over the next 2 years, many mothers will return to work and have to reconcile work and family, and the child will become more autonomous, at times affirming this in a highly resolute if not obstinate

manner. These significant challenges to the parent may bring about significant changes in parental perceptions of and behaviours toward the child.

This paper describes the evolution of four dimensions of parental perceptions and behaviours, namely, parental self-efficacy, the perception of parental impact, parental coercive behaviours and parental overprotection, for the mothers and the fathers of Québec children targeted in the first three rounds of the QLSCD, when the children were 5, 17 and 29 months old. It begins with an examination of the four dimensions retained for longitudinal analyses. This is followed by a description of the evolution of the four dimensions for the mothers and the biological fathers of the targeted children, whether or not these parents were living as couples, as well as a comparison and an analysis of the convergences between the mothers and fathers for those children who lived with both parents. An examination of the test-retest stability of these dimensions lead us to identify specific developmental trajectories in the coercive behaviours of both the mothers and the fathers.

3. Description of the Longitudinal Version of the PPBS and of the Target Population

The original version of the PPBS was the result of a series of steps aimed at selecting appropriate items (see the Annex). The 32 items of the PPBS retained for the 1998 round of the QLSCD were regrouped into the SAQM (Self-Administered Questionnaire for the Mother) and the SAQF (Self-Administered Questionnaire for the Father), which were filled out by both biological parents of the 5-month-old infant or, when appropriate, by a spouse living in the household. For each item, the parent or spouse responded using an 11-point Likert-scale ("0 = not at all " to "10 = exactly") to assess what the parent did, thought or felt with regard to the child. Because we wanted to describe parental perceptions and behaviours longitudinally, a modified version of the PPBS, comprising 16 items associated with one of the four retained dimensions, was developed for the three first rounds of the study (children 5 months, 17 months and 29 months of age)**.**

The four dimensions on the PPBS are presented in Table 3.1. Parental self-efficacy (four items) refers to the parent's evaluation of his/her ability to accomplish the tasks associated with the parenting role (the items were based on those proposed by Teti and Gelfand, 1991). The perception of parental impact (five items) refers to the parent's evaluation of the effects of his/her behaviour on the development of the child.[1] Parental coercive behaviours (three items) refers to the tendency to respond in a hostile and restrictive manner to difficult behaviours in the child, reactions that reflect a relative lack of sensitivity to the child's needs and moods. Finally, parental overprotection (four items) refers to behaviours that reflect excessive concern for the safety and protection of the child.

Among the 2,120 families who responded to the 1998 round of the survey and were considered for longitudinal follow-up, 1,985 also participated in the data collections that took place when the infants were 17 months and 29 months of age. Among them, 1,839 biological mothers or stepmothers filled out the SAQM (Self-Administered Questionnaire for the Mother) and 1,431 biological fathers or spouses of the mother filled out the SAQF (Self-Administered Questionnaire for the Father) in which the PPBS was included, when the children were 5 months, 17 months and 29 months of age. Only those children whose biological parents, whether or not they were living together, filled out the three rounds of the assessments were retained; in all, this comprised 1,836 mothers and 1,423 fathers. In contrast, for the analyses comparing parenting perceptions and behaviours of the mothers and fathers, only those children whose two biological parents lived together for the three rounds of the study were considered, that is, 1,409 children.[2]

The factor analysis on the data gathered from the biological mothers (the number of respondents varied according to the questions) who responded to the first three rounds of the QLSCD confirmed the presence of the four dimensions. A principal component analysis with VARIMAX rotation was performed on the data collected in each round. The factor loadings observed (that is, the factor coefficients associated with each item) were all higher than 0.30 for the expected factor and lower than 0.30 for the other factors (data not shown). Thus, significant weights (> 0.30) were found for all of the items on the expected dimensions, and this was true at each of the three time points. None of the longitudinal items (those present in each time point) of the PPBS had significant cross-loadings on the other dimensions. The analyses on the data collected from the 1,423 biological fathers (the number of respondents varied to some extent according to the questions) who responded to the three rounds of the QLSCD revealed the same pattern of convergences.

1. During the calculation, the scores of the items that were negatively formulated and reflected a weak perception of parental impact (for example, *I worry about the effect on the development of the personality of my child*) were inverted in order to obtain a measure of impact.

2. These figures represent the real sizes of the analytical samples. After weighting, the results of all analysis presented may be generalized to Québec children targeted by QLSCD who lived with their biological mother, their biological father or both of their biological parents. The limited number of respondents fulfilling the role of "stepparent" or foster parent were consequently excluded from the analysis.

Overall, the four dimensions showed an acceptable degree of reliability, given the low number of retained items (Cronbach alphas varied from 0.53 to 0.81 among the mothers and from 0.61 to 0.85 among the fathers; data not shown).

Table 3.1
Dimensions of the Parental Perceptions and Behaviours regarding the infant/child Scale (PPBS), Québec, 1998, 1999 and 2000

Dimensions	Questions
Parental self-efficacy	I feel that I am very good at keeping my child amused. I feel that I am very good at calming my child down when he/she is upset, fussy or crying. I feel that I am very good at keeping my child busy while I am doing other things. I feel that I am very good at attracting the attention of my child.
Perception of parental impact	My behaviour has little effect on the parental development of my child. Regardless of what I do, my child will develop on his/her own. My behaviour has little effect on the intellectual development of my child. My behaviour has little effect on the development of emotions in my child. My behaviour has little effect on how my child will interact with others in the future.
Parental coercive behaviours	I have been angry with my child when he/she was particularly fussy. I have raised my voice with or shouted at my child when he/she was particularly fussy. I have spanked my child when he/she was particularly fussy.
Parental overprotection	I insist upon keeping my child close to me at all times, within my eyesight and in the same room as I am. I consider myself a “real mother hen”. When I leave my child with a baby-sitter, I miss him/her so much that I cannot enjoy myself. I can never bring myself to leave my child with a baby-sitter.

4. Portrait of the PPBS and the Profiles of the Mothers and the Fathers of the Children

Examination of the distribution of the scores (that is, the means of the items retained for the given dimension) indicated that only parental overprotection had a normal distribution for the three time points (data not shown). All of the other dimensions had distributions characterized by a positive bias (i.e., toward the right; parental self-efficacy and perception of parental impact) or a negative bias (i.e., toward the left; parental coercive behaviours). It should be noted, however, that the distribution for parental coercive behaviours moved gradually toward the right from the 1998 round of the survey (5 months) to the 2000 round (29 months), revealing a curve approaching that of a normal distribution around 29 months of age. However, for all of the distributions, the range and variability of the scores allowed for the vast majority of respondents to be positioned along the scale, that is, no extreme polarization of the scores was observed.

The results obtained for the mothers and the fathers are presented here separately. The means observed for the mothers for the four dimensions on the PPBS at the three time points are shown in Figure 4.1. On the whole, at the three time points, the mothers perceived themselves to be effective as parents and believed that their behaviour would have a significant impact on their child's personal development. Nonetheless, although the perception of parental impact did not seem to change in relation to the age of the child, parental self-efficacy, parental coercive behaviours and parental overprotection each revealed significant temporal variations. In order to evaluate these tendencies, the scores obtained on each dimension were submitted to a "2 (sex of the child) X 3 (age of the child) analysis of variance" with the age of the child treated as a repeated measure. Specific contrasts were performed with respect to age: the profiles of the 1998 round (5 months) were contrasted to the 1999 round (17 months), then the 1998 and 1999 rounds to the 2000 round (29 months). Given that biased distributions were observed, complementary analyses were performed on the transformed variables for parental self-efficacy, the perception of parental impact and parental coercive behaviours.[3] Only results significant at the 0.05 level are presented here,[4] with the exception of some analyses for which the confidence level was tightened to 0.01.

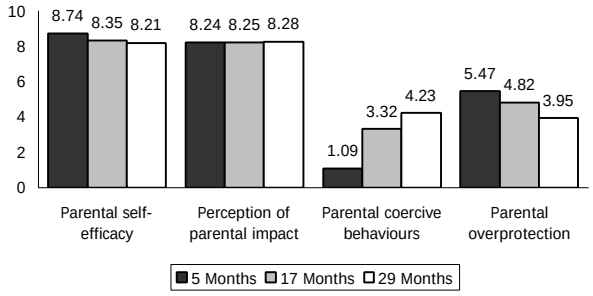
This analysis confirmed a significant and continuous increase (that is, from 5 to 17 months, continuing up to 29 months) in maternal coercion. This increase corresponded to a continuous decline in maternal self-efficacy and maternal overprotection during the same period. For the perception of maternal impact, no significant variation related to the age of the child was observed. In addition, no significant difference was found with respect to the gender of the infant or to the interaction between gender and age (data not shown).

In brief, between 5 and 29 months, the mothers generally showed an increase in coercive behaviours. Conversely, they became less worried by the health and safety of their child and felt somewhat less effective as parents. These results stood for children of both genders.

3. Complementary analyses confirming the results described above were carried out on transformed variables for parental self-efficacy, perception of parental impact and coercive behaviours. For the first two dimensions, which were characterized by a bias to the left, the transformation "log(11-y)" was used. For tendency to coercion, which was characterized more by a bias to the right, the transformation "square root (y)" was used. These tranformations enabled us to obtain a distribution of the variables resembling a normal distribution, as well as an analysis of the variance that was sufficiently homogenous from one sub-group to another.

4. Except for the analyses of variance for the groups demonstrating coercive trajectories, the estimates of the parametres as well as their precision take into account the sampling plan. Consequently, for the trajectories, only the results with a confidence level lower than 0.01 are discussed in this paper.

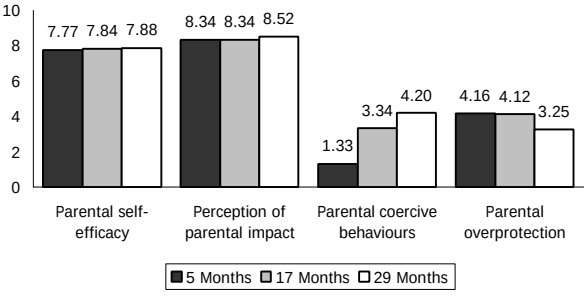
Figure 4.1
Mean scores of the mothers on four dimensions of the PPBS by age of the child, Québec, 1998, 1999 and 2000



Source: *Institut de la statistique du Québec, QLSCD 1998-2002.*

The means of the fathers on the four dimensions on the PPBS at the three time points are shown in Figure 4.2. The scores were submitted to similar analyses as those of the mothers. In contrast to the mothers, the fathers did not demonstrate a significant change in parental self-efficacy during the period from 5 to 29 months. A slight increase in their perception of parental impact was observed between 17 and 29 months. As with the mothers, coercive behaviours increased significantly and continuously, while the parental overprotection showed an inverse profile, although only between 17 and 29 months, when it declined significantly. No differences were observed with respect to the gender of the child or to the interaction between gender and age.

Figure 4.2
Mean scores of the fathers on four dimensions of the PPBS by age of the child, Québec, 1998, 1999 and 2000



Source: *Institut de la statistique du Québec, QLSCD 1998-2002.*

4.1 Comparison of the Fathers and the Mothers

In order to evaluate whether there were differences between fathers and mothers with respect to parenting perceptions and behaviours, a series of univariate and multivariate analyses was performed, on the one hand, to test whether the difference between the parents was significant in general and, on the other hand, to evaluate whether the difference between the parents varied from one age to another. Only households in which the two biological parents were both present and responded in the three measured time points were included (n = 1,409 households; the total number of cases retained for each analysis may have varied somewhat according to the scores of the missing items). This selection ensured better control of the variations related to the fact that some parents had a more difficult family context, for example, single-parent family, or a more particular context where one of the spouse had taken on the role of a stepparent. It provided a means to better understand the differences between the mothers and the fathers living in a similar context, albeit a more normative one.

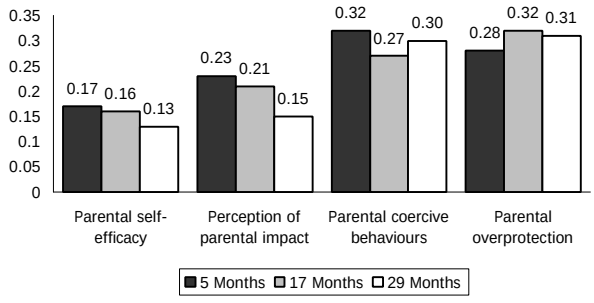
These analyses revealed significant differences between the biological mothers and fathers. These differences varied in relation to the age of the child (data not shown). In general, the mothers felt more effective as parents than did the fathers, but this difference diminished progressively between 5 and 29 months, without totally disappearing. The fathers perceived that they had as great an impact as the mothers on the development of their child at 5 months and at 17 months, but their perception of their impact was slightly higher than that for the mothers at 29 months. Although the fathers were somewhat more prone to coercion than the mothers at 5 months, this difference was not significant at 17 months and at 29 months. Finally, the same trends were revealed for parental self-efficacy and parental overprotection; the mothers were, in general, more worried about the health and safety of their infants than were the fathers, but this difference diminished between 5 and 17 months, before levelling out.

In brief, for three of the four dimensions, the main differences between the fathers and the mothers were observed when the infants were 5 months of age, and these differences tended to diminish, and, in the case of coercive behaviours, completely disappeared as the child grew up, at least until 29 months.

4.2 Convergences Between the Fathers and the Mothers

Although mothers and fathers slightly differed with respect to the parenting dimensions, some spouses may share the same perceptions and behavioural tendencies. In as much as these dimensions speak to the quality of the parent's involvement with the infant, it is useful to evaluate the degree of convergence between the spouses to better understand the parental environment. Spearman correlations were thus calculated between the scores of the mothers and those of the fathers for the four PPBS dimensions at the three time points. These correlations, which were all statistically significant, are shown in Figure 4.3. The correlations varied from weak (for example, the correlations varied from 0.13 to 0.17 for parental self-efficacy and from 0.15 to 0.23 for the perception of parental impact) to moderate (for example, the correlations varied from 0.27 to 0.32 for parental coercive behaviours and from 0.28 to 0.32 for parental overprotection).

Figure 4.3
Correlations among the mothers and fathers on four dimensions of the PPBS by age of the child, Québec, 1998, 1999 and 2000[1]



1. All correlations are significant to $p < 0.001$.
Souce: *Institut de la statistique du Québec, QLSCD 1998-2002.*

4.3 Stability of Individual Differences

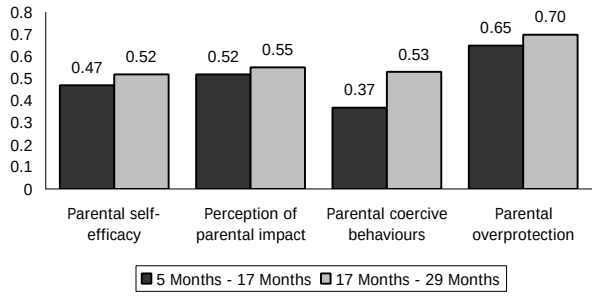
As noted previously, significant differences were found between mothers and fathers relative to the age of the child with respect to the parental perceptions and behaviours. These temporal differences were no doubt linked, on the one hand, to the changing context in which parents fulfilled their roles and, on the other hand, to the fact that the object of their care, their young child, was becoming more autonomous and seemingly less vulnerable. These differences may, nonetheless, conceal some stability at the interpersonal level. In other words, does a mother who feels more effective relative than other mothers when her child is 5 months old perceive herself in the same way when that child is 17 months and 29 months old?

To examine this question, we first calculated the test-retest correlations for each of the dimensions. Spearman correlations were calculated between 5 and 17 months, then between 17 and 29 months. The test-retest correlations obtained for the mothers are shown in Figure 4.4. In general, they indicate a moderate to strong temporal stability (the correlation varied from 0.37 to 0.70). Except for coercive behaviours, the dimensions reveal coefficients of similar magnitudes for the two time periods. Despite the time intervals involved (one year between each evaluation), the coefficients obtained for parental self-efficacy and the perception of parental impact were moderately high; however, they were especially high for parental overprotection. Thus, although the mothers might have altered their perceptions and behaviours in relation to the age of the child, they showed stability with respect to individual differences. For example, those mothers who, in comparison to the others, showed a preoccupation with the health and safety of their infant at 5 months, showed relatively the same tendency at 17 months and at 29 months. This tendency was less strong, yet significant, for parental self-efficacy and the perception of parental impact. A different pattern was observed for maternal coercion, where the stability between 5 and 17 months was comparatively less than that between 17 and 29 months and weaker than for the other dimensions. In addition to the significant changes already documented for this dimension (see Figure 4.1), there might also be important modifications in the mother's individual

path or trajectory for this dimension, as we shall see in the next section.

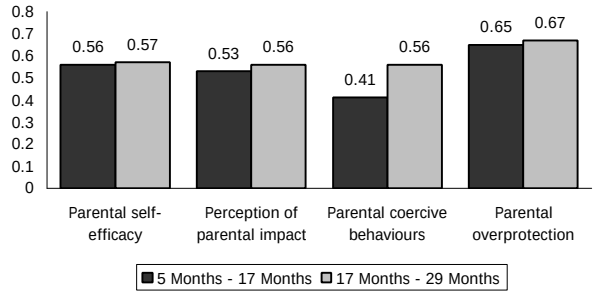
Similar analyses were carried out for the fathers and on the whole, the results revealed the same trends (Figure 4.5). In particular, the coercive behaviours had less stability between 5 and 17 months than between 17 and 29 months.

Figure 4.4
Correlations of four dimensions of the PPBS for mothers by age of the child, Québec, 1998, 1999 and 2000[1]



1. All correlations are significant to $p < 0.001$.
Souce: *Institut de la statistique du Québec, QLSCD 1998-2002.*

Figure 4.5
Correlations of four dimensions of the PPBS for fathers by age of the child, Québec, 1998, 1999 and 2000[1]



1. All correlations are significant to $p < 0.001$.
Souce: *Institut de la statistique du Québec, QLSCD 1998-2002.*

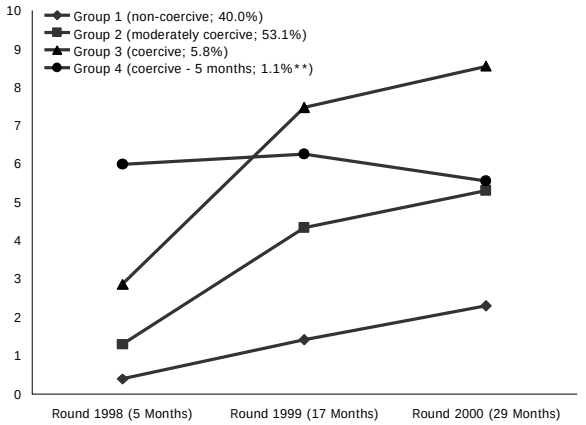
5. Developmental Trajectories of Coercive Behaviours

By "developmental trajectory", we mean the evolution of the individual scores observed between 5 and 29 months. The following analyses will try to identify homogenous sub-groups of mothers and fathers who share a similar pattern of development with respect to coercive behaviours. Beyond the empirical arguments already presented (ex.: the weakest test-retest correlation), the choice of this dimension was also based on the fact that this type of parenting behaviours has been associated with the onset of behavioural problems in children (Crittenden, 1988; Lyons-Ruth *et al.*, 1990, 1991; Patterson *et al.*, 1992).

In order to identify these trajectories, we used a clustering procedure based on semi-parametric modelling developed by Nagin (1999; see also Nagin *et al.*, 1999). For each cluster of potential trajectories, the model defines the form of the trajectory (that is, in the present case, ascending, descending or stable, given that only linear trends may be estimated) and the estimated percentage of the population exhibiting this trajectory. A key step in the estimating procedure is the choice of the optimal number of regrouped trajectories to ensure that the data have a best fit. The choice of the optimal model is based on the value of the index — the Bayesian Information Criterion or BIC — which reflects the fit and the parsimony of the model. The choice is also based on theoretical likelihood.

The scores for maternal coercion were first submitted to this type of analysis. Solutions of from two to seven groups were examined. A four-group solution was deemed optimal according to the BIC and was thus retained for the remainder of the analyses. The four resulting trajectories are shown in Figure 5.1. A large majority of mothers were found to be in the two groups characterized by low (40%) and moderate (53%) levels of coercive behaviours. A smaller group, corresponding to about 6% of the mothers, revealed relatively high levels of coercive behaviours. Although present when the babies were 5 months old, the difference between the groups increased from 5 months to 17 months, stabilizing thereafter. The mean scores for the first three groups, representing almost all of the mothers, were clearly ascending. Against this ascending trend, one must consider the trajectory of the last group, which is much smaller in number (approximately 1% of the mothers). These mothers were characterized by a very high level of coercive behaviours when their children were 5 months old, and this level tended to be maintained in absolute terms, but to decline in relative terms (that is, when the behaviours were compared to the tendencies observed in the other mothers).

Figure 5.1
Trajectories of coercive behaviours in mothers (scores), Québec, 1998, 1999 and 2000



Note: The four groups were formulated through a trajectory analysis. Because the coefficients of variation calculated here take into account the part of the variance attributable to sampling but not that attributable to modelling, they are underestimated.

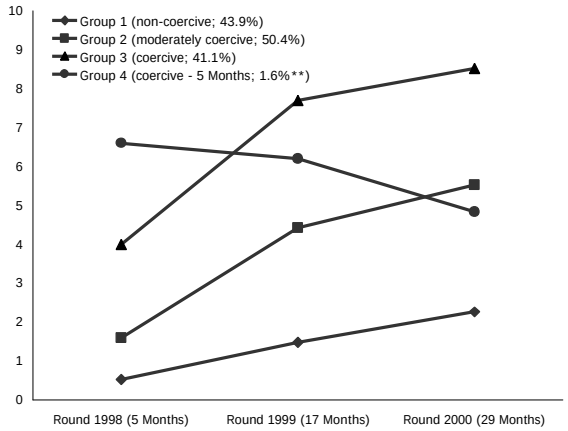
** Coefficient of variation greater than 25%; imprecise estimate for descriptive purposes only.

Source: *Institut de la statistique du Québec*, *QLSCD 1998-2002.*

Similar analyses were done for the fathers. As with the mothers, a four-group solution seemed to be the most appropriate. As shown in Figure 5.2, the trajectories for the fathers were very similar to those for the mothers. In addition, the breakdown for fathers was proportionally the same as for mothers: 44% of the fathers were found to be "non-coercive," 50% "moderately coercive," 4.1% "coercive" and approximately 2% were in the category "coercive at 5 months only."

Figure 5.2

Trajectories of coercive behaviours in fathers (scores), Québec, 1998, 1999 and 2000



Note: The four groups were formulated through a trajectory analysis. Because the coefficients of variation calculated here take into account the part of the variance attributable to sampling but not that attributable to modelling, they are underestimated.

** Coefficient of variation greater than 25%; imprecise estimate for descriptive purposes only.

Source: *Institut de la statistique du Québec, QLSCD 1998-2002.*

We examined the degree of convergence between the trajectories of the mothers and those of the fathers in households where the two biological parents were present. The general overlap of the two categories indicated a significant (chi-square = 151.28, df = 9, $p < 0.001$), albeit moderate, association (Phi = 0.33). Thus, among mothers in two-parent families considered non-coercive (40%), 61% had a spouse who was also non-coercive (that is, 44% of fathers in two-parent families). Among mothers considered moderately coercive (52%), the proportion of fathers who were also non-coercive was 60% (that is, 50% of all fathers in two-parent families). In contrast, for the mothers classified as coercive (7%), 14% had a spouse who was also coercive (4.1% of fathers), while 60% had a partner who was moderately coercive. Finally, for the mothers found to be coercive at 5 months only (about 1%), none lived with a spouse who had the same profile (about 2% of fathers). The latter estimate, however, is not very reliable because it was based on only a very small number of observations.

How are the four groups of mothers and fathers characterized on the other dimensions of parental perceptions and behaviours? To answer the question, we examined the scores of parental self-efficacy, perception of parental impact and parental overprotection at the three time points for the four groups of mothers, and then for the four groups of fathers. A “4 (groups) X 3 (age of child)”, ANOVA was conducted on the scores, with age of the child again being treated as a repeated measure. These analyses were followed *post hoc* by a multiple comparison procedure (LSD tests).

The analysis showed that in general, the “coercive” mothers were less worried about the health and safety of their child (that is, scored lower on parental overprotection) than the “non-coercive” and the “moderately-coercive” mothers. The age of the child had no bearing on this finding. As with the first group, the “moderately-coercive” mothers had lower self-efficacy compared to the “non-coercive” mothers. Finally, the mothers classified as “moderately coercive” perceived that they had less impact on the development of their child than did the mothers who were “non-coercive” (data not shown).

Table 5.1

Associations among the developmental trajectories of coercive behaviours of mothers and fathers in two-parent families, Québec, 1998, 1999 and 2000[1]

	Trajectories of Fathers[2]				Total	
	Non-coercive	Moderately coercive	Coercive	Coercive - 5 Months only		
	%				n	%
Trajectories of Mothers[3]						
Non-coercive	61.3	35.9	1.9**	0.9**	**562**	**100.0**
	55.8	28.4	19.1**	21.2**	**...**	**40.0**
Moderately coercive	33.7	60.3	4.3*	1.7**	**737**	**100.0**
	40.3	62.7	55.2	54.7*	**...**	**52.4**
Coercive	20.2*	60.4	13.7**	5.7**	**95**	**100.0**
	3.1**	8.1	22.7**	24.1**	**...**	**6.7**
Coercive - 5 Months only	39.7**	46.7**	13.6**	--	**13**	**100.0**
	0.8**	0.8**	3.0**	--	**...**	**0.9 ****
Total						
n	**618**	**710**	**57**	**22**	**1,407**	**...**
%	**43.9**	**50.4**	**4.1**	**1.6****	**...**	**100.0**

Note: The four group of mothers and fathers were created as the result of a trajectory analysis. Because the coefficients of variations calculated here take into account the variance attributable to sampling but not that attributable to modelling, they are underestimated.

1. $p < 0.001$.
2. The percentages are added vertically (second row of each category).
3. The percentages are added horizontally (first row of each category).

* Coefficient of variation between 15% and 25%; interpret with caution.

** Coefficient of variation greater than 25%; imprecise estimate for descriptive purposes only.

Source: *Institut de la statistique du Québec, QLSCD 1998-2002*.

For the fathers, significant differences were found with respect to parental self-efficacy and overprotection, but these differences varied as a function of the age of the child. Thus, at 5 and at 17 months, coercive fathers felt less effective, yet less preoccupied about the health and safety of their infant than did fathers who were considered non-coercive. At 29 months, the only remaining difference was on overprotection. Fathers classified as “coercive at 5 months only” perceived themselves to be less effective and less preoccupied over the health and safety of their infant (that is, overprotection) than did fathers who were “non-coercive” and fathers who were “moderately coercive”. At 17 months, these differences remained with respect to overprotection, but no significant difference was found on parental self-efficacy. At 29 months, no significant difference was found between fathers classified “coercive at 5 months only” and the other groups of fathers. Finally, the fathers found to be “moderately coercive” always perceived themselves to be less effective than did the “non-coercive” fathers. They were also less preoccupied about the health and safety of their child at 5 months and at 17 months, but no significant difference was observed at 29 months.

It appears, then, that these three parenting dimensions are linked in a theoretically coherent way with the coercion trajectories for both mothers and fathers.

6. Conclusion

The aim of this paper was to describe the evolution of parental perceptions and behaviours along four dimensions when the child was 5, 17 and 29 months old. We began by providing rather general descriptions of these tendencies for the biological mothers and fathers. We then compared the perceptions and the behaviours reported by those parents in two-parent households, before turning our attention to the question of individual differences. We will now summarize the main findings for each level of analysis.

For three of the four dimensions studied, that is, parental self-efficacy, parental overprotection and especially parental coercive behaviours, significant changes were observed during infancy. The parents reported that they became progressively less preoccupied with the health and safety of their child (that is, less overprotective). They also reported, on average, more frequent use of coercive behaviours between 5 months and 29 months. It is worth noting that this trend was observed for both parents, although only from 17 to 29 months for overprotection by fathers.

On the normative level, the greatest change was observed for coercive behaviours, a trend that characterized 99% of mothers and fathers according to the trajectory analysis. Child factors are likely involved here. For instance, the child's growing use of his or her mobility and autonomy, his or her increased capacity of displaying oppositional and aggressive behaviours and the fact that he/she is perceived as less vulnerable, may alter the parent-child context and cause an increase in parental coercive behaviours as well as a decrease in protective attitudes in the two parents. For example, recent studies have shown that at around 17 months of age a majority of children display physical aggressive behaviours in relating to others and that this behavioural tendency peaks at 36 months (Keenan and Shaw, 1994; Keenan and Wakschlag, 2000; Tremblay *et al.*, 1999). The growing propensity in children to behave aggressively might explain the increase in parental coercive behaviours. Some theoreticians have expressed this view (see Lytton, 1990); others have simply evoked this possibility while emphasizing the greater role of the parent in the emergence of a family coercive process (Patterson *et al.*, 1992). It should be noted however that the questions on parental coercion were formulated to reflect a parental response to a situation presented as hard to manage ("... when your child is fussy"), which might explain the observed trends to some extent. It would be useful to verify whether these trends are confirmed when a more neutral question is used.

Differences in trends were also found between mothers and fathers with respect to the evolution of parental self-efficacy. The mother perceived herself to be constantly more effective and more preoccupied by the health and safety of the child than the father, but this difference tended to narrow as the child got older. The decrease in the gender difference may reflected a growing involvement by the father in the care of the child. It is interesting to note that at 29 months the fathers' perception of their impact was slightly higher than that of the mothers. It is also useful to recall that, at 5 months, the support of the spouse (that is, the support of the father as perceived by the mother) was positively associated with parental self-efficacy in the father (Boivin *et al.*, 2000). The involvement of the father might be the key to the association between conjugal support and parental self-efficacy. More generally, the most important differences between the fathers and mothers were observed when the child was 5 months old, and they tended to become smaller as the child got older, at least until 29 months. This seems to indicate that parental roles are more sharply distinguished when the child is 5 months old.

Some degree of convergence was observed between the parents, in particular with regard to coercive behaviours and overprotection, which may indicate that it is possible to characterize some family environments along these dimensions. The cross-spouse analysis of the coercion trajectories correspondence confirmed that the trend was significant, although of limited magnitude, at least for families with children up to 29 months of age. In short, there are significant differences in the perceptions and behaviours of both parents in the same family. It is thus important to gather information on both parents if we are to understand

the nature of the child's social experience within his or her family.

As discussed earlier, the changes in the scores on parenting perceptions and behaviours according to the age of the child suggest there are normative changes associated with the fact of taking care of a child at different stages of his or her development. Moreover, the test-retest correlations revealed some stability with respect to individual differences in parenting perceptions and behaviours. For these two types of analysis, parental coercion was noteworthy, not only for the fact that it increased significantly between 5 months and 29 months, but also for its weaker stability, specifically between 5 months and 17 months. These results seem to indicate that there are many types of developmental trajectories of parental coercive behaviours and underline the need to develop a classification of these trajectories into more homogeneous subgroups. The exercise in classifying the trajectories was convincing. Beyond the identification of the two large groups in which the majority of the mothers were found, it revealed the existence of a small group of mothers (6%) who were consistently more coercive. A final group of mothers, smaller still (1%), was also identified. It had a distinctive profile in that coercion held steady in absolute terms but decreased in relative terms. The fact that such a small group was identified underlines the sensitivity of the classification algorithm.

The same type of analysis was carried out for the fathers, and it revealed a similar pattern of trajectories. This finding is all the more interesting in that the similarity cannot be explained by the fact that the parents belonged to the same family (the convergence between the trajectories of the mother and those of the father in the same family was weak). It would be useful to examine what risk factors linked to the child, the parent and the household predict these trajectories. Also, because this study involves a longitudinal follow-up of the families, it should be possible to determine the relation between those trajectories, parental discipline methods, and behavioural problems in the children. This research undertaking should help us to better understand the mechanisms by which certain adverse conditions negatively influence child development and also to identify the most promising intervention strategies.

Annex

An initial list of 52 items was produced. Those related to parental self-efficacy were adapted from the scale created by Teti and Gelfand (1991). They were slightly modified to make them more relevant to the context of 5-month-old infants. The content validity of the items was evaluated by 15 experts – clinical and developmental psychologists, with considerable experience in parent-child interactions in the first year of life. They assessed the relevance of the contents of each item for the expected dimensions. Following this process, 26 items were retained. Six new ones on parental coercive behaviours and several others were added. A first version of 40 items was produced and presented to the first sample of mothers. It was quickly reduced to 37, since some items were poorly understood by the mothers and presented ceiling effects (thereby demonstrating weak sensitivity). It was then administered to more than 500 mothers in the QLSCD pilot study (Boivin *et al.*, 1997). A factor analysis confirmed the presence of the five anticipated dimensions. The affection dimension was not considered in this first version. Four of the dimension – parental self-efficacy, parental coercive behaviours, parental overprotection and perception of the infant's qualities – presented an acceptable level of reliability (Cronbach alpha > 0.70); however, perception of parental impact was less reliable (Cronbach alpha = 0.51). Based on these results, a new version containing 32 items was developed for the actual study. The perceived impact scale was reconstructed and five items related to affection were added.

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Glossary

Direction de la méthodologie et des enquêtes spéciales, ISQ	Methodology and Special Surveys Division, ISQ
Direction des normes et de l'information, ISQ	Standards and Information Division, ISQ
Direction Santé Québec, ISQ	Health Québec Division, ISQ
Institut de la statistique du Québec	Québec Institute of Statistics
ministère de la Santé et des Services sociaux du Québec (MSSS)	Ministry of Health and Social Services of Québec
Personne qui connaît le mieux l'enfant (PCM)	Person Most Knowledgeable (PMK)

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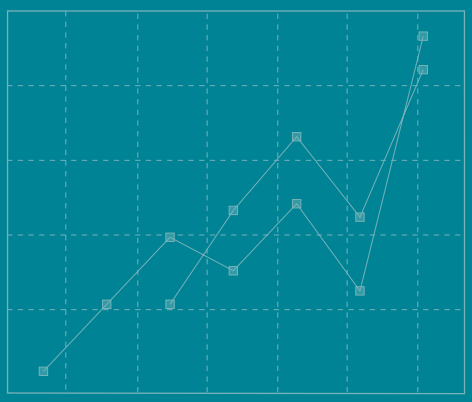

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