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ORIGINAL PAPER

Self-Efficacy Beliefs Amongst Parents of Young Children: Validation of a Self-Report Measure

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Abstract The self-efficacy belief (SEB) concept is discussed in the context of parenting. A questionnaire, the *Echelle Globale du Sentiment de Compétence Parentale* (EGSCP), assessing several domain-specific SEBs and three related cognitive constructs, was developed with 705 French-speaking parents of 3- to 7-year-old children. The EGSCP displayed good psychometric properties. Age-related differences and differences between mothers and fathers illustrated the questionnaire's discriminative properties. Relations were also found between EGSCP and several criterion variables: support, satisfaction, self-esteem and stress, childrearing behavior, and children's social competence and behavior. The refinement of the SEB concept in the parenting context provides a more comprehensive view of both mothers' and fathers' cognition. The empirical and clinical implications of this are discussed.

Keywords Self-efficacy beliefs · Parental cognition · Control of outcomes · Mastery motivation · Responsibility

Introduction

Parenting is satisfying, but it is probably the most demanding social role assumed in young and middle adulthood, placing intellectual, emotional, and physical demands on mothers and fathers (Coleman and Karraker 1997). Each parent may experience this role in many different ways, and feel more or less competent in them. Numerous similar—but not exactly identical—concepts denoting this sense of competency can be found in the parenting literature, described as parenting self-agency (Dumka et al. 1996; Gecas 1989), parental locus of control (Campis et al. 1986), parental perceived competence (Ballenski and Cook 1982), parental sense of competence (Johnston and Mash 1989) and self-efficacy beliefs (SEBs) (Bandura 1977). This final approach is the one used in the present study, which has two objectives, one theoretical and one empirical. First, it defines and discusses the SEB concept in the context of parenting. Second, it describes and validates the *Echelle Globale du Sentiment de Compétence Parentale* (EGSCP) (General Scale of Parental SEBs), a questionnaire assessing parents' SEBs.

There is a large literature on the SEB concept, probably because of its relevance in every human experience (Coleman and Karraker 1997). In Bandura's Social Learning Theory (1977), the SEB concept refers to an individual's belief in his or her ability to successfully perform a particular action. SEBs are thought to affect both the initiation and the persistence of suitable behavior. Since the SEBs depend on the context where this behavior occurs, the concept has been considered as multidimensional (varying with context) rather than as a global trait (Bandura 1989).

In the parenting context, the SEB concept has been defined as parents' self-perceived competence in their role (Coleman and Karraker 2003). Coleman and Karraker (1997) describe three levels of parental SEBs: task-specific, domain-specific and domain-general SEBs. *Task-specific SEBs* focus on the parent's sense of competence in specified tasks (e.g. Ballenski and Cook 1982; Teti and Gelfand 1991). *Domain-specific SEBs* broadly focus on the extent to which a parent feels competent in this role in specific domains (such as teaching something to the child, playing with him or her, and giving him or her support and love)

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(Bandura et al. 1996; Coleman and Karraker 2000, 2003; Teti and Gelfand 1991). *Domain-general SEBs* refer to the parent's overall self-perceived competence in the role (Dumka et al. 1996; Wells-Parker et al. 1990).

Moderate correlations have been observed between domain-specific and domain-general SEBs. These two levels were also related to several parental and child outcomes including adapted and supportive parental behavior (Izzo et al. 2000), higher satisfaction in the parental role (Coleman and Karraker 2000), lower parental stress and depression (Gross et al. 1994), and better adjustment (Coleman and Karraker 2003), socio-emotional functioning (Bohlin and Hagekull 1987) and academic achievement (Ardelt and Eccles 2001) in the child. Domain-specific SEBs were assumed to be more related to behavioral manifestations of efficacy than were more general measures (Bandura 1989). Several results supported this assumption since domain-specific parental SEBs have been found to predict parents' childrearing behavior to a greater extent than domain-general SEBs (Coleman and Karraker 2003; Sanders and Woolly 2005).

Social Learning Theory (SLT) holds that SEBs are rooted in individual factors (e.g. personal history of accomplishment, emotional arousal) as well as in contextual factors (e.g. verbal feedback from others, social comparisons) (Bandura 1989). In line with Bandura's (1989) theory, the parenting framework has been found to display several factors influencing SEBs. The parent's SEBs seem to have their roots in childhood (Grusec et al. 1994). Following the "regularities in their patterns of interpersonal relating" (Grusec et al. 1994, p. 9), the parent applies his or her early internal patterns to the daily experience of being a parent. Such an interpretation is in line with the attachment theory which holds that early internal models influence interpersonal behavior across the whole course of a life (Ainsworth et al. 1978, in Coleman and Karraker 1997). Lovejoy et al. (1997) have shown that parents reporting high levels of SEB also reported a secure attachment style. The cognitive and behavioral anticipation of the parental role was also considered as a potent influence on SEBs (Affonso and Sheptak 1989). Positive relationships were found between prenatal ability to confidently visualize oneself as a mother and maternal self-confidence after the child's birth (Heinicke et al. 1983). Third, parents' SEBs also result from their experience as an adult towards their own children and those of relatives. The feedback from parent–child interactions seem to be an important source of information about parental competence (Goodnow 1985). Lower levels of SEB were found among parents with atypically demanding children (Mash and Johnston 1983; Teti and Gelfand 1991). Fourth, culture delivers information about parenting values as well as on childcare and child development. The information provided by the close social network around the parent seems to influence his or her SEBs more than the general culture (Goodnow 1985; Grusec et al. 1994). Within their social network, parents compare their beliefs with those of relatives. Also, by mean of social comparisons, parents gather information about their own competence (Coleman and Karraker 1997).

Self-efficacy beliefs are among the best predictors of behavior generally-speaking and success in particular in many contexts (Haidt and Rodin 1999). However, focusing only on SEBs to explain role performance seems insufficient since psychological processes underlying behavior are multivariate in nature (Coleman and Karraker 1997). In fact Social Learning Theory depicts SEBs as nested in a network of cognitions influencing behavior through a complex interplay of affective, motivational, cognitive, and behavioral pathways. The SEB concept is "concerned with the motivation and the cognitive resources … needed to exercise control over given events" (Ozer and Bandura 1990, p. 472). Amongst other cognitive constructs, control-of-outcomes beliefs indicate the belief that an appropriate action exists that has the potential to lead to the desired outcomes. According to Bandura (1977), control-of-outcomes is a necessary prerequisite to SEBs. Control-of-outcomes and SEBs are two necessary conditions for performance but they are also differentiated (Bandura 1989). Indeed, individuals may believe that a particular course of action will produce certain outcomes, but seriously doubt their own capabilities. Encompassing this cognitive construct in the parenting framework, Wells-Parker et al. (1990) refer to *parental control of outcomes beliefs* as indicating that an appropriate childrearing behavior exists. Positive relations were shown between both SEBs and control-of-outcomes and adaptive coping (Parkes 1984); negative relations were also found between both concepts and helplessness. Nevertheless, control-of-outcomes beliefs were more impersonal and environmentally based than SEBs, which relied more on the affective dimension (Abramson et al. 1978). In this way, behavior in domains implying personal engagement, such as marriage or parenting, was related to a greater extent to SEBs than to control of outcomes beliefs (Wells-Parker et al. 1990).

SEBs are also related to the cognitive appraisal of actual experience (Bandura 1989). Locus-of-control (LOC) is related to individual cognitive appraisal since it refers to beliefs about where control over subsequent events resides (Rotter 1966). In the parenting framework, parents' LOC orientation assesses whether parents feel responsible (internal locus of control) or not (external locus of control) for their child's behavior. Internal LOC orientation has been shown to be related to parental SEBs (Campis et al. 1986; Lovejoy et al. 1997; Mouton and Tuma 1988), supportive childrearing behavior (Dix and Lochman 1990), and children's social

competence (Dix and Grusec 1985; Hagekull et al. 2001). Mouton and Tuma (1988) further demonstrated that mothers' sense of responsibility was low when their child displayed externalizing behavior. The Parental Locus of Control scale (PLOC, Campis et al. 1986) has been widely employed to detect LOC orientation in parents. However, due to its lack of conceptual background, PLOC also included other ideas (as well as the LOC) such as the parents' sense of competence or the balance of control between parents and children. The *parental responsibility* subscale of the PLOC assessing the parent's sense of responsibility for the child's behavior, came closest to the LOC concept (Rotter 1966).

Another cognitive construct in this field is Bandura's (1977) "motivational hypothesis" that self-perceived efficacious individuals would be highly motivated to pursue their role. Several relations between motivation and SEBs have been described in the literature (Haidt and Rodin 1999). According to Bandura (1989), the capacity to represent future outcomes in thought provides a cognitively-based source of motivation (Bandura 1989). Similarly, the theories of intrinsic motivation (Deci 1975; White 1959) imply innate needs for competence by suggesting that an "individual's primary motivational propensity is to be effective in producing changes in his environment" (Decharms 1968, p.269). In this context, Yarrow et al. (1983) proposed the *mastery motivation* construct, defined as "striving for competence" or dealing with a demanding context. Considering the motivational hypothesis in the parenting framework, the authors related SEBs and commitment to the parenting role (Wells-Parker et al. 1990). Playing a great and effective role in their child's development is an important source of motivation for parents (Campbell et al. 1982). Self-perceived efficacious parents were seen to maintain their mastery motivation even in challenging situations (Jones and Prinz 2005).

The SEB concept is a promising field of research in the parenting context, but several shortcomings have to be pointed out. First, with the existence of numerous similar but not identical concepts, the theoretical background of previous SEB scales was confusing and comparisons between studies must therefore be considered with caution. Low correlations have indeed been found between these scales, even those purporting to assess similar concepts (Campis et al. 1986; Dumka et al. 1996; Lovejoy et al. 1997). Although each level of SEB is conceptually distinct, instruments often fail to represent these levels adequately. Common criticisms of existing measures included minimal validation, lack of conceptual clarity, homogeneous normative samples and employment of ambiguous terminology (Dumka et al. 1996; Sabatelli and Waldron 1995).

Semantic overlap has been found between scales which are supposed to measure different levels. Sabatelli and Waldron (1995) suggested that general measures lacked a conceptual background and often referred to dimensions that seemed more specific than they were supposed to be. For example, several items of the PSOC (Parental Sense of Competence, Johnston and Mash 1989) and the PLOC scales (both general measures) focused on parental SEBs in discipline, while Coleman and Karraker developed a discipline subscale in their task-specific measures (SEPTI, 2000; SEPTI-TS, 2003). Conversely, several subscales of the SEPTI/SEPTI-TS seemed more general and less related to specific tasks (Discipline, Nurturance) than others (Play, Instrumental care, Teaching). Second, the parenting framework depicts the SEB construct as a complex cognition where perception, knowledge, attribution and motivational aspects are thoroughly intertwined (Coleman and Karraker 1997), but most of the existing scales assess SEB as a single idea without any consideration of its relationships with other cognitive constructs. The relations between SEBs and behavior were explained by the Social Learning Theory through multivariate and complex processes (Jones and Prinz 2005). The inclusion of several related constructs within the same instrument allows us to identify how these constructs are related to each other and to avoid semantic overlap between them. As suggested by Holden and Edwards (1989), 'the use of multidimensional scaling techniques represents a promising new approach to capture more fully the complexities in parental thought' (p. 51). Third, most previous studies have focused only on mothers' SEBs (Coleman and Karraker 1997; Dumka et al. 1996); little is known about how fathers view their competence in the paternal role. This lacuna seems extraordinary, given that the way fathers influence their children's social (Parke 1996) and cognitive (Dubowitz et al. 2001) development seems to be different from mothers. Finally, the majority of previous scales were developed with English-speaking middle-class parents. Since culture influences the parental role and expectations of children, conceptually-sound scales should be validated within each specific cultural context (Dumka et al. 1996). To our knowledge, no instrument has been developed or adapted for a French-speaking population.

In the light of these current limitations, the empirical objective of the present study is to work out and to validate a conceptually- and psychometrically-sound questionnaire, the EGSCP, covering several domain-specific SEBs and three related cognitive constructs (Control of outcomes, Responsibility, and Mastery motivation). Some of the items are based on previous scales and some are newly developed. The items were inspired by the PLOC scale (Campis et al. 1986), the Self-Efficacy for Parenting Task Index and by the Self-Efficacy for Parenting Task Index—Toddler Scale (SEPTI & SEPTI-TS, Coleman and Karraker 2000, 2003).

Several psychometric properties of the EGSCP, such as the *factor structure* and the *internal consistency,* were

computed for mothers and fathers separately as well as for the pooled sample. Moderate to high positive relationships were expected between SEBs and the three related cognitive constructs. The *discriminative properties* of the EGSCP were also explored. Previous studies (Maniadaki et al. 2005) led us to expect child-age-related but not child-gender-related differences. Furthermore, differences were expected between mothers and fathers. Earlier findings have been contradictory (Hudson et al. 2001; Johnston and Mash 1989) and studies considering both parents are scarce (Bogenschneider et al. 1997; Jacobs and Kelley 2006), so little is known about how mothers and fathers appraise the way they fulfill their parenting role. With regard to the parents' educational level, higher SEBs were expected among high-educated parents (Coleman and Karraker 2003). Due to inconsistent findings in previous studies, the family-size-related differences were explored (Jones and Prinz 2005).

The construct validity of the EGSCP was explored by relating domain-specific SEBs and the other cognitive constructs to several *criterion variables*. Positive relations were expected between parental SEBs and social or co-parent support (Bonds et al. 2002) since SEBs are affected by social persuasion and modeling by significant others (Bandura 1989). Positive relations were also expected between SEBs and role satisfaction and self-esteem. It seems likely that parents who feel competent will enjoy their role (Ballenski and Cook 1982; Teti and Gelfand 1991) and enhance their self-esteem (Cutrona and Troutman 1986). Negative relations in turn were expected between SEBs and stress (McCurdy 2005; Wells-Parker et al. 1990). Strong links between SEBs and parents' actual childrearing behavior were expected (Coleman and Karraker 1997); the higher the SEB, the higher the supportive parenting. Such relations have previously been shown with toddlers (Izzo et al. 2000), preschoolers (MacPhee et al. 1996) and school-aged children (Bogenschneider et al. 1997; Dumka et al. 1996). Finally, positive relations were expected between parents' SEBs and child outcomes. High SEBs have been associated with social competence (Rohner 1986), low externalizing behavior (Johnston and Mash 1989; Bugental et al. 1989) and, to a lesser extent, with low internalizing behavior (Barber et al. 1994). Parents rearing a child who exhibits externalizing behavior have been shown, in turn, to display low SEBs (Gross and Tucker 1994).

Method

Sample

A total of 705 parents (385 mothers and 320 fathers) of 388 children from 3 to 7 years of age participated in this study. All came from non-divorced families. Data were collected in randomly selected schools in the three kindergarten years and in first grade. A complete list of the schools in each of the five provinces of the French-speaking part of Belgium (Namur-Luxembourg, Hainaut, Brabant Wallon, Liège, Bruxelles) was drawn up, and two schools in each province were then randomly selected from this list. The EGSCP questionnaire was sent to the 1,680 mothers and fathers of 840 children (response rate = 42.01%), together with a letter assuring them that the data would remain confidential. Both parents (mother–father pairs) completed the questionnaire for 317 children, while only one of the two parents responded for the remaining 71 children (68 mothers and three fathers). The mean age of the children was 4.58 years old ($SD = 1.17$). They were 191 boys ($M_{age} = 4.61$; $SD = 1.24$) and 189 girls ($M_{age} = 4.63$; $SD = 1.09$). Gender was missing for 10 children. The number of children in the families ranged from one to seven children, with 18.9% ($N = 74$) of the families having one child, 49.5% ($N = 192$) having two children, and 31.6% ($N = 123$) having three or more children. The parent's educational level (EL) was measured by the total number of years of schooling he or she had successfully achieved. The mean EL of the parents was 14.09 years ($SD = 2.66$), 13.91 years ($SD = 2.91$) for mothers and 14.22 years ($SD = 2.47$) for fathers.

The parents who completed the EGSCP were subsequently asked to complete another set of questionnaires on the criterion measures. To avoid drop-out from the study, half of the sample was asked to complete rating scales about social support, co-parent support, parental satisfaction, self-esteem and stress. A total of 273 parents (160 mothers and 113 fathers) filled out these scales (response rate = 36.40%). The other half of the sample was asked to complete a questionnaire focusing on parents' childrearing behavior and another one focusing on children's behavior, and their internalizing and externalizing. A total of 432 parents (225 mothers and 207 fathers) completed these questionnaires (response rate = 46.55%).

Measures

Parental SEB and Related Cognitive Constructs (EGSCP)

The EGSCP was devised to assess SEBs in several parenting domains and three related cognitive constructs. In a first attempt to develop an instrument measuring these constructs in French-speaking samples, a translated version of the PLOC (Campis et al. 1986) was completed by 396 parents of school-aged children. The PLOC is a 47-item scale assessing the locus of control in parent–child dyads. A five-factor structure was found by its authors with parents of elementary school children: Parental Efficacy,

Parental Responsibility, Child Control of Parents' Life, Parental Beliefs in Fate/Chance and Parental Control of Child's Behavior.

Despite its lack of conceptual clarity, the PLOC was thought to provide a multi-dimensional and comprehensive view of important aspects of cognition in the parenting framework. Moreover, PLOC had been used in a lot of previous studies and consistently related to several aspects of the parent–child relationship (Janssens 1994). Finally, since most of the PLOC items were personal statements of the 'I/My child' type, Hagekull et al. (2001) commented that they were not bipolar (internal–external) but unipolar and therefore close to Bandura's (1989) self-efficacy concept.

In the preliminary French-speaking sample, the five-factor structure delineated by Campis et al. (1986) was not retrieved. The amount of variance explained by the factors was only 33.1% and, with the exception of the Parental Responsibility scale ($\alpha = .73$), the αs were low (between .25 and .56). The items of the Parental Efficacy subscale loaded on two distinct factors, suggesting that the subscale was bi-dimensional for the Belgian sample. Several items focused on the perception of competence in the parental role (for example "when my child gets angry, I can usually deal with him/her if I stay calm") while others were related to a motivational content (for example "My child usually ends up getting his/her way, so why try?"). The items with motivational content loaded on the same factor as the three items of the Parental Beliefs in Fate/Chance subscale, suggesting similar motivational components. The items of the Perception of Competence subscale loaded on the same factor as several items of the Parental Control of Child's Behavior subscale. Although these items were supposed to measure general SEB, they were closer to a more specific factor related to discipline. In total, three meaningful factors emerged from the analysis: *Discipline SEB* and two related cognitive constructs (*Parental Responsibility* and *Mastery Motivation*). The deletion of irrelevant items allowed these three factors to emerge more clearly. Twenty items originating from the PLOC were finally considered for the development of the EGSCP.

The subscale assessing the third related cognitive construct *Control of Outcome* arose from the first item of the efficacy sub scale of the PSOC (Johnston and Mash 1989): "The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired". The last part of the statement ("an understanding I have acquired") was deleted in order to be closer to the Control of Outcome construct. New items were added to complete this rating scale.

The other domain-specific SEBs subscales were inspired by two questionnaires by Coleman and Karraker (2000, 2003) based on the work of Emde (1989): the SEPTI-TS (2000) aimed at toddlers (19 to 25 months) and the SEPTI (2000) for school-aged children (5 to 12 year olds). Because the age of the children being studied here was intermediate between the SEPTI-TS and the SEPTI, the domain-specific SEBs subscales were formed from the two versions, with six factors and six items in each: Emotional Availability, Nurturance, Discipline, Play, Teaching and Instrumental Care. Items on the Discipline subscale were used to supplement the Discipline subscale revealed in the preliminary study.

Finally, the EGSCP consisted of 57 items from previous scales and 10 new items. The items from previous scales were translated into French using a double-blind translation procedure (English to French, followed by a French to English back-translation and comparison). A five-point Likert-type scale from "strongly disagree" to "strongly agree" was provided for each item. Nine factors were expected to emerge from the analysis: six domain-specific SEBs and three related cognitive constructs (Parental Responsibility, Parental Control of Outcome and Mastery Motivation).

Criterion Variables

Co-parent Support, *Social Support*, *Parental Stress*, *Parental Self-Esteem*, and *Parental Satisfaction* were assessed with 28 items arising from several previously developed scales, including the Cleminshaw–Guidubaldi Parental Satisfaction scale (Guidubaldi and Cleminshaw 1985), the Parental Satisfaction subscale of the PSOC (Johnston and Mash 1989) and the Parenting Social Support from Family and Friends scale (Bonds et al. 2002). Using oblimin rotation the expected five factors emerged, with high loadings (>.40) on the target factors and no cross loading. Some 60.85% of the variance was explained by the pooled scale. The internal consistency was moderate to high (αs between .62 and .93).

Parental Childrearing Behavior was assessed by the *Evaluation des Pratiques Educatives Parentales* (EPEP, Meunier and Roskam 2007), which was based on previous studies by Van Leeuwen and Vermulst (2004) and Patterson (1982). The EPEP is composed of 35 items relating to nine factors: Positive Parenting, Monitoring, Rules, Discipline, Inconsistent Discipline, Harsh Punishment, Ignoring, Material Rewarding, Autonomy. Recently validated on 493 French-speaking mothers and fathers of normally-developing children, the EPEP scale demonstrated good psychometric properties: moderate to high internal consistency (αs between .65 and .89); 64.3% of the variance explained by the factors; moderate to high test-retest correlations; and items which were not correlated with social desirability. Confirmatory factor analyses (CFA) showed

that the two-second-order factors covering the Support and Negative Control parenting dimensions reported in the literature (see, for example, Baumrind 1971, and Maccoby and Martin 1983) emerged from the initial factor solution. The Supportive Parenting factor was composed of Positive Parenting, Autonomy, Monitoring, and Rules, while the Controlling Parenting factor included Discipline, Harsh Punishment, Material Rewarding, Inconsistent Discipline and Ignoring. Only the two-second-order factor were used in present study.

Finally, the *child's Social Competence*, *Externalizing and Internalizing Behavior* was assessed with the Profil Socio-Affectif (PSA, Dumas et al. 1997). The PSA is the French version of the Social Competence and Behavior Evaluation: Preschool Edition (SCBE, LaFreniere and Dumas 1995, formerly the Preschool Socio-Affective Profile, Lafreniere et al. 1992). This instrument, composed of 80 items, was developed from a developmental background, emphasizing the functional meaning of affect in regulating social interactions (Bowlby 1980; Ekman 1984). Three factors emerged in the original validation study (LaFreniere et al. 1992): social competence, externalizing behavior and internalizing behavior. Subsequent studies confirmed these three factors across different cultures (LaFreniere and Dumas 1995) and different samples (Brown-Pullam 1999; LaFreniere et al. 2002). The French adaptation of the scale was validated on a sample of 800 preschoolers (387 girls, 413 boys). It demonstrated good properties: high internal consistency, a large amount of variance explained by the factors, high inter-judge agreement, good test-retest correlations, and no correlation with social desirability.

Results

Factor Analysis and Internal Consistency of EGSCP

An exploratory factor analysis (EFA) using principal-axis factoring and oblimin rotation was performed within the subsamples of mothers and fathers and with all the 705 parents. A nine-factor solution was expected but in fact the factor analysis displayed eight factors. There were five factors rather than the expected six for domain-specific SEBs. Items of the Emotional Availability and Nurturance subscales loaded on a single factor. As expected, Discipline items coming from the two sources loaded on the same factor. The three related cognitive constructs were supported by the results. Only items with high loadings on the target factor (>.40) and low cross-loading on the others (<.20) were selected. The final version of the EGSCP consisted of 37 items, of which 25 were on domain-specific SEB subscales: Discipline (7 items), Play (5 items), Nurturance (5 items), Instrumental care (5 items), and Teaching (3 items). The remaining 12 items loaded on the three related cognitive constructs: Responsibility (4 items), Control of Outcome (4 items) and Mastery Motivation (4 items). The Cronbach's αs were moderate to high: ranging from .56 to .84 for the mothers, from .58 to .84 for the fathers, and from .60 to .84 in the pooled sample. The emerging eight-factor solution explained 55.29% of the variance for mothers, 55.79% for fathers, and 53.07% in the pooled sample. Table 1 presents the results of the EFA and the αs for the EGSCP questionnaire. The items are presented in Appendix I.

A confirmatory factor analyses (CFA) was conducted on the 37 items remaining after the EFA using Lisrel 8.52 (Jöreskog and Sörbom 2002). The CFA, based on the covariance matrix and using maximum likelihood estimation was conducted with mothers and fathers separately and in the pooled sample. All the parameters were free to be estimated for the target factor and fixed to zero for the other one. Overall the χ^2 statistic was significant: $\chi^2(601) = 1114.99$, $p < .001$ for the mothers, $\chi^2(601) = 1002.61$, $p < .001$ for the fathers, and $\chi^2(601) = 1448.53$, $p < .001$ for the pooled sample. A significant χ^2 statistic indicates that a significant proportion of the variance was *not* explained by the model. However, this should not necessarily lead to the model being rejected. The use of χ^2 in a large sample is problematic, since the "excessive test power (because of the large *N*) may prompt the rejection of acceptable models" (Hayduk 1996, p. 197). Measures of fit demonstrated that the model had acceptable fit to the data (CFI = 0.94, GFI = 0.84, RMSEA = 0.05, RMR = 0.05 for mothers; CFI = 0.96, GFI = 0.86, RMSEA = 0.05, RMR = 0.05 for fathers; CFI = 0.95, GFI = 0.90, RMSEA = 0.05, RMR = 0.04 in the pooled sample), with all the estimated factor loadings being significant. The completely standardized factor loadings ranged between .4 and .8; error variances ranged between .21 and .79.

Relations Between SEB and the Three Related Cognitive Constructs

Table 2 shows that the five domain-specific SEB were moderately correlated to each other. As a halo effect, parents who felt competent in one specific domain, also felt competent in the others. Significant but low correlations appeared between the three related cognitive constructs. The expected relations were found between Mastery Motivation and SEBs, with all the coefficients being positive and moderate to high. The expected relations between Control of Outcome and SEBs were partially confirmed for the mothers, with three coefficients being significant (Discipline, Play, Nurturance). However, only one positive correlation was found for the fathers

Table 1 Results of exploratory factor analysis and Cronbach's αs

		Mothers ($N = 385$)								Fathers ($N = 320$)								Pooled sample ($N = 705$)							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Domain-specific SEBs																									
Discipline	Disc1	.82								.74								.81							
	Disc2	.71								.37								.65							
	Disc3	−.84								−.70								−.76							
	Disc4	.60								.51								.64							
	Disc5	.70								.49								.63							
	Disc6	.41								.33		−.39						.42							
	Disc7	−.55								−.37	.42							−.51							
Play	Play1		.84								.75								.84						
	Play2		.89								.77								.85						
	Play3		.82								.79								.82						
	Play4		.75								.69								.72						
	Play5		.47								.59								.47						
Nurturance	Nurt1			.77								.68								.70					
	Nurt2			.56								.69								.73					
	Nurt3			.80								.67								.65					
	Nurt4			.60								.60								.68					
	Nurt5			.40		−.36						.53								.61					
Instrumental care	Instr1				−.84								−.76								−.81				
	Instr2				−.75								−.71								−.73				
	Instr3				.73								.73								.76				
	Instr4				.68								.73								.72				
	Instr5				.63								.66								.66				
Teaching	Teach1					.56								.72								.60			
	Teach2					.66								.53								.59			
	Teach3					.42								.46								.54			
Related cognitive constructs																									
Parental Responsibility	Resp1						.72								.72								.72		
	Resp2						.72								.67								.73		
	Resp3						.70								.77								.72		
	Resp4						.72								.51	.39							.64		

Table 1 continued

		Mothers ($N = 385$)								Fathers ($N = 320$)								Pooled sample ($N = 705$)							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Parental control of outcome	Contr1							.62								.69									.77
	Contr2							.62								.66									.41
	Contr3					−.31		.51								.41									.51
	Contr4							.68								.72									.57
Mastery motivation	Mast1								−.70								−.72								−.77
	Mast2								.59								.70					.39			.51
	Mast3								.46						.44		.32			−.31					.40
	Mast4								.60								.33								.47
Eigenvalues		4.74	4.73	3.66	3.58	2.67	2.31	2.04	2.49	3.58	4.43	4.88	4.52	2.31	2.68	2.24	2.58	4.36	4.44	4.19	3.95	2.30	2.32	1.81	2.20
α		.82	.84	.76	.79	.63	.68	.56	.60	.75	.84	.81	.83	.58	.67	.62	.57	.80	.84	.80	.81	.61	.68	.60	.60

(Nurturance). Surprisingly, unexpected negative relations were found between Parental Responsibility and SEBs, especially for the fathers. Finally the correlations between the three related cognitive constructs displayed positive and negative relations. Positive correlations were found between Control of Outcome and Mastery Motivation and between Control of Outcome and Responsibility while the correlations between Responsibility and Mastery Motivation were negative. These results suggested that Internal-control oriented parents recognized that effective childrearing behavior exists, but they did not feel efficacious or motivated enough to foster it. The expected relations between SEBs and the related constructs were thus partially supported.

Discriminative Properties of EGSCP

Differences between mothers and fathers were studied using *t*-tests on the 317 mother–father couples. The results are presented in Table 3. Overall the mothers' and fathers' scores were correlated. However, the fathers felt more competent in Discipline while the mothers felt more competent in Nurturance and Instrumental Care.

The discriminative properties of the EGSCP questionnaire were studied with a 2 (Child's Age) × 2 (Child's Gender) ANOVA. Child's age was dichotomized with equivalent cell-sizes: less than 5 years old, and 5 years old or more. The results displayed a single significant effect for age, parents feeling more competent in Discipline when the child was over five than when the child was younger (F (1, 681) = 5.16, $p < .05$, $\eta^2 = .01$). As expected, there were no significant effects for gender. The discriminative properties of the questionnaire with respect to the parents' EL, were studied with a one-way ANOVA. EL was trichotomized with equivalent cell-sizes: <12 years of education ($N = 207$), between 12 and 15 years ($N = 308$), and 16 or more years ($N = 175$). Significant effects emerged for Instrumental Care (F (2, 687) = 3.35, $p < .05$, $\eta^2 = .01$), Teaching (F (2, 687) = 13.22, $p < 0.001$, $\eta^2 = .05$), and for Control of Outcome (F (2, 687) = 8.11, $p < .05$, $\eta^2 = 0.03$). Fisher's post hoc test revealed that the poorly-educated parents felt less competent in teaching and instrumental care domains than the two other groups of parents. Poorly-educated parents also had higher Control of Outcome beliefs than the two other groups. Finally, significant effects emerged for the family size in two domains: Play (F (2, 682) = 8.41, $p < .001$, $\eta^2 = .03$) and Nurturance (F (2, 682) = 9.76, $p < .001$, $\eta^2 = .03$). In families with three or more children, parents felt less competent in Play than in families with fewer children. In the same way, parents rearing only one child felt more competent in Nurturance than parents with more children.

Table 2 Pearson correlations between EGSCP factors

	DISC	PLAY	NURT	INSTR	TEACH	RESP	CONTR	MAST
Domain-specific SEBs								
DISC								
Mothers		.40**	.29**	.30**	.39**	−.08	.12*	.39**
Fathers		.35**	.40**	.52**	.42**	−.10*	.05	.54**
Pooled sample		.38**	.30**	.35**	.39**	−.12**	.08*	.44**
PLAY								
Mothers			.43**	.26**	.31**	−.08	.19**	.36**
Fathers			.57**	.27**	.33**	−.13*	.05	.31**
Pooled sample			.46**	.25**	.31**	−.10**	.11**	.33**
NURT								
Mothers				.23**	.43**	−.02	.33**	.30**
Fathers				.39**	.40**	−.11*	.26**	.38**
Pooled sample				.31**	.41**	−.08*	.27**	.31**
INSTR								
Mothers					.35**	−.06	.01	.24**
Fathers					.39**	−.15**	.08	.45**
Pooled sample					.36**	−.11**	.04	.33*
TEACH								
Mothers						−.09*	.05	.35**
Fathers						−.16**	.04	.40**
Pooled sample						−.12**	.05	.36**
Related cognitive constructs								
RESP								
Mothers							.08	−.16**
Fathers							.24**	−.15**
Pooled sample							.15**	−.16**
CONTR								
Mothers								.14**
Fathers								.05
Pooled sample								.09*
MAST								
Mothers								
Fathers								
Pooled sample								

DISC Discipline, *PLAY* Play, *NURT* Nurturance, *INSTR* Instrumental Care, *TEACH* Teaching, *RESP* Parental Responsibility, *CONTR* Parental Control of Outcome, *MAST* Mastery Motivation

* $p < .05$; ** $p < .01$

Table 3 Means (standard deviations) of mothers and fathers, correlation coefficients between mothers and fathers and *t*-tests

	Mothers $N = 288$	Fathers $N = 288$	Correlation coefficients	*t*-tests	Effect size (Cohen's d)
Discipline	3.73(.67)	3.90(.53)	.47***	−4.68***	.28
Play	3.75(.73)	3.78(.68)	.28***	−.68	.04
Nurturance	4.36(.47)	4.16(.54)	.29***	5.82***	.40
Instrumental care	4.47(.59)	4.29(.64)	.45***	4.69***	.29
Teaching	4.30(.63)	4.24(.64)	.25***	1.29	.09
Parental responsibility	2.72(.73)	2.79(.70)	.19**	−1.18	.10
Parental control of outcome	3.58(.64)	3.63(.65)	.24***	−1.15	.08
Mastery motivation	4.18(.59)	4.16(.56)	.34***	.47	.03

* $p < .05$; ** $p < .01$; *** $p < .001$

Construct Validity of EGSCP: Relations with Criterion Variables

To assess the construct validity of EGSCP, Pearson correlation coefficients were computed with several criterion variables. The results are displayed in Table 4. Positive relations between SEB and Support were found, especially for Social Support as perceived by fathers. Co-parent Support was only significantly related to Discipline for the fathers. Following these results, the fathers' self-perceptions appeared to be more affected by external factors than the mothers. As expected, moderate positive correlations were also found between SEBs and Satisfaction and Self-esteem; there were negative correlations between SEBs and Stress. As hypothesized, positive moderate correlations were displayed between SEBs and the children's outcomes of Social Competence, low Externalizing and low Internalizing behavior.

Turning to the three cognitive constructs, there were a few significant correlations between Control of Outcomes and both parents' self-esteem. For the mothers, positive correlations were found between Supportive Childrearing behavior, Child's Social Competence and low Internalizing behavior. For the fathers, correlations were found with Supportive and Controlling Behavior but not with the child's outcomes. The results suggested that Control of Outcome was related to positive child's outcomes for the mothers but not for the fathers. Moderate positive relations were established (as hypothesized) between Mastery Motivation and Satisfaction, Supportive childrearing behavior, children's Social Competence, low Externalizing and low Internalizing behavior. Significant negative correlations were found between Mastery Motivation and Stress and Controlling childrearing behavior. Finally, unexpected results were also found for Parental Responsibility with only one correlation between Parental Responsibility and Self-esteem for fathers.

Discussion

In line with the need for conceptually—and psychometrically—sound scales for assessing parental SEBs, the EGSCP questionnaire may represent an effective solution for both research and clinical studies with French-speaking parents. Indeed, the EGSCP allowed a parent's self-reported cognition to be measured according to a well-defined concept within the parenting literature. Preliminary analysis allowed us to produce a final version of the questionnaire with five domain-specific SEB factors and three related cognitive constructs (Parental Responsibility, Parental Control of Outcomes and Mastery Motivation). This format captured the multidimensionality of the parents' SEBs.

Several psychometric properties were explored in the present study. They supported the validity of an eight-factor solution. The preliminary study with the PLOC suggested factors that had not been previously envisaged. Since they were congruent with the theoretical background, they were introduced into the final version of the EGSCP, and combined with other items from previous scales (Coleman and Karraker 2000, 2003; Emde 1989). The amount of variance explained was high and the internal consistency of the subscales was moderate to high. Confirmatory Factor Analysis (CFA) conducted with Lisrel 8.52 (Jöreskog and Sörbom 2002) demonstrated an acceptable fit to the data. As expected, domain-specific SEBs were moderately correlated to each other and to the three related cognitions. However, the Parental Responsibility subscale displayed an unexpected pattern of relationships.

Social learning theory assumes that SEBs determine how parents behave, and how much effort and persistence they demonstrate in the face of adversity (Bandura 1977). Our results corroborated such "motivational hypothesis". Mastery Motivation was indeed correlated with domain-specific SEBs, as well as with several parental and child outcomes. Mastery Motivation may now be considered as the cognitive construct most closely related to SEB.

The expected relations between Control of Outcomes and SEB (Bandura 1977) were partly demonstrated for Discipline, Playing, and Nurturance, especially for mothers. Among the criterion variables, Control of Outcomes was related to parental Self-esteem for both parents. Other significant relations suggested specificities in mothers' and fathers' cognitions. For mothers, Control of Outcome was related to supportive childrearing behavior and to positive outcomes for the child; for fathers, it was related to both supportive and controlling childrearing behavior but not to child's outcomes. This suggests that fathers who strongly believe that there are good childrearing practices which are appropriate in all situations exert more control over their child. Such an excessive belief in the controllability of the child's development may be close to the "illusion of control" concept (Alloy and Abramson 1979). Such illusory beliefs depend on treating non-contingent events as if they were contingent, overestimating one's own control.

In the light of the unexpected pattern or results found for the Responsibility Subscale, a conceptual refinement seems to be necessary. As suggested by Furnham and Steele (1993), comprehending control orientation in the parental framework should be difficult because the LOC concept is somewhat situation specific, whereas parental function is extremely broad. Although internal oriented, our measure probably encompasses a construct broader than the Locus of Control concept. Moreover, our item phrasing was oriented towards children's disruptive behavior rather than

Table 4 Pearson correlations between EGSCP factors and the criterion variables

	Subsample 1 ($N = 273$)					Subsample 2 ($N = 432$)				
	Support		Parents' affects			Parental childrearing behaviour		Child's behaviour		
	Social support	Spouse support	Satisfaction	Self-esteem	Stress	Support	Control	Externalizing behavior	Internalizing behavior	Social competence
Domain-specific SEBs										
DISC										
Mothers	0.11	0.15	0.36**	0.35**	−0.52**	0.36**	−0.47**	0.58**	0.28**	0.40**
Fathers	0.18	0.20*	0.48**	0.37**	−0.54**	0.35**	−0.37**	0.50**	0.25**	0.47**
Pooled sample	0.11	0.20**	0.40**	0.35**	−0.54**	0.30**	−0.42**	0.54**	0.26**	0.41**
PLAY										
Mothers	0.35**	−0.04	0.27**	0.24**	−0.31**	0.43**	−0.15*	0.31**	0.18**	0.33**
Fathers	0.43**	−0.09	0.19*	0.42**	−0.24*	0.36**	−0.11	0.24**	0.10	0.31**
Pooled sample	0.38**	−0.06	0.24**	0.31**	−0.27**	0.37**	−0.13**	0.28**	0.14**	0.31**
NURT										
Mothers	0.12	−0.08	0.21**	0.43**	−0.33**	0.37**	−0.21**	0.31**	0.28**	0.37**
Fathers	0.36**	0.02	0.28**	0.63**	−0.32**	0.41**	−0.05	0.19**	0.13	0.33**
Pooled sample	0.26**	−0.13*	0.25**	0.51**	−0.28**	0.41**	−0.14**	0.24**	0.21**	0.35**
INSTR										
Mothers	0.23**	0.09	0.22**	0.30**	−0.17*	0.24**	−0.19**	0.13*	0.20**	0.17**
Fathers	0.19*	0.09	0.35**	0.39**	−0.32**	0.32**	−0.19**	0.31**	0.28**	0.36**
Pooled sample	0.23**	0.04	0.28**	0.34**	−0.21**	0.30**	−0.20**	0.22**	0.24**	0.26**
TEACH										
Mothers	0.09	0.10	0.28**	0.26**	−0.34**	0.31**	−0.27**	0.30**	0.33**	0.31**
Fathers	0.26**	0.10	0.35**	0.31**	−0.27**	0.32**	−0.19**	0.21**	0.23**	0.32**
Pooled sample	0.16**	0.09	0.31**	0.28**	−0.31**	0.31**	−0.23**	0.25**	0.28**	0.32**
Related cognitive constructs										
RESP										
Mothers	0.06	−0.15	−0.08	0.04	0.07	−0.08	0.11	−0.08	−0.05	−0.08
Fathers	0.01	0.00	−0.07	−0.22*	0.14	0.01	−0.04	−0.04	−0.02	0.10
Pooled sample	0.04	−0.11	−0.07	−0.07	0.11	−0.04	0.05	−0.06	−0.04	−0.01
CONTR										
Mothers	0.12	−0.10	0.17*	0.19*	−0.15	0.17*	0.08	0.11	0.19**	0.14*
Fathers	0.22*	−0.04	0.11	0.27**	0.09	0.22**	0.27**	0.02	0.07	0.07
Pooled sample	0.15**	−0.05	0.14*	0.22**	−0.06	0.18**	0.17**	0.06	0.13**	0.11*
MAST										
Mothers	−0.04	−0.07	0.36**	0.11	−0.13	0.34**	−0.18*	0.36**	0.24**	0.28**
Fathers	0.31**	0.12	0.51**	0.21*	−0.40**	0.38**	−0.28**	0.33**	0.24**	0.39**
Pooled sample	0.11	−0.03	0.42**	0.15*	−0.22**	0.35**	−0.22**	0.35**	0.24**	0.32**

DISC Discipline, *PLAY* Play, *NURT* Nurturance, *INSTR* Instrumental Care, *TEACH* Teaching, *RESP* Parental Responsibility, *CONTR* Parental Control of Outcome, *MAST* Mastery Motivation

* $p < .05$; ** $p < .01$

their adaptive traits. Control orientation probably has to be considered together with other parameters such as whether the events are perceived as good or bad, whether the causes of an event are considered stable or unstable, and whether the causes are perceived to be general or specific (Abramson et al. 1978). Wells-Parker et al. (1990) broadened the concept of locus of control to the concept of explanatory style which refers to a person's habitual way of explaining events in his or her life. A person who invokes internal, stable, and general factors to explain failures and difficulties is said to have a "depressive explanatory style" and is most at risk of becoming depressed in the face of adversity (Haidt and Rodin 1999). Our results suggest that the Parental Responsibility subscale reflects an explanatory

style more than a simple control orientation. Parents scoring high on the Responsibility subscale may consider themselves as stable causal agents with respect to their child's problem behavior. Such parents may recognize that effective educative actions exist (Control of Outcome) but they (especially the fathers) feel less efficacious, less motivated and have lower self-esteem than the parents who take less responsibility. More studies are however, needed to investigate how the presence/absence of a child's problem behavior impact on this cognition.

Semantic factors have also to be considered with respect to the Responsibility and Control of Outcome subscales. Due to the impersonal phrasing of their items, these subscales were probably not sufficiently reality-focused. They fit Holden and Edwards' (1989) category of "descriptive beliefs" since they capture stereotypic attitudes but ignore individuality in ascribing characteristics to parents. According to Hagekull and his coworkers (Hagekull et al. 2001), such stereotypical attitudes could be poor predictors because of the incompatibility between such general attitudes and specific outcomes (a domain-specific SEB, childrearing behavior, or a child's social competence). Despite the low correlations between the Responsibility and Control of Outcomes subscales and specific outcomes, such general subscales are of great interest since they provide information about how parents think about parenting in general. Although low, significant correlations with the other EGSCP factors and with specific outcomes highlight how parental cognitions relate to each other and how they impact on parent–child relationships in different ways for mothers and fathers.

It was suggested by the results that Social and Co-parent Support influence the fathers' self-perceived competence to a greater extent than the mothers. Grusec et al. (1994) suggested that parents might differ in their beliefs about childhood development and education. Such cognitive conflict was hypothesized to impact on the parent's self-perceived competence in day-to-day parenting tasks. Furthermore, parents who can rely on their partner and relatives for a variety of parental tasks were more confident in fulfilling their role. This confidence, in turn, was hypothesized to increase their satisfaction and self-esteem and to decrease their stress (Cutrona and Troutman 1986). The relations between Control of Outcomes and childrearing behavior, and between Mastery Motivation and all but one criterion variables, were higher for fathers than for mothers; the reverse was true for the relations between Control of Outcomes and the child's outcomes. Further explorations of these patterns are necessary since they could have direct implications for parent–child adjustment and co-parenting counseling.

The EGSCP was shown to discriminate according to the child's age, the parent's gender and EL, and the family size. Parents were more confident in their ability to disciple children over five than younger children. Setting rules and limits is probably more difficult for preschoolers. Discipline is a hugely demanding role for parents of preschoolers, whereas older children are able to employ self-regulation and internal compliance to a greater extent (Harnishfeger 1995; Hoffmann 1983).

Several differences were found between mothers and fathers. Fathers felt more competent at Discipline, whereas mothers displayed higher SEBs in Nurturance and Instrumental Care. Consistent with gender-stereotypes, the mothers perceived themselves as more efficacious in child care (Allen and Hawkins 1999) whereas the fathers portrayed themselves as breadwinners and representing family discipline (Thompson and Walker 1989). Considering the significant differences between mothers and fathers on Discipline, and the correlations between childrearing behavior and Control of Outcomes, it is possible that fathers attach special importance to achievement, and therefore have higher Control of Outcome beliefs. Differences were also found according to the parents' EL. As expected, lower SEBs were found for Teaching and Instrumental Care subscales among the poorly-educated parents (Coleman and Karraker 2003). Conversely, the poorly-educated parents have higher Control-of-Outcome expectancies. As suggested by Dekovic and Gerris (1992), well-educated parents have a more reasoned and realistic view on parenting and use more adapted parenting attitudes. Finally, differences according to family size were found. Maybe due to higher demands, parents rearing several children may have few opportunities to nurture their children and to play with them. They might therefore feel less competent in these domains.

The construct validity of the EGSCP was supported by many significant relations between SEBs and the criterion variables. In previous studies, domain-specific SEBs were related to childrearing behavior to a greater extent than general SEB (Sanders and Woolly 2005). Our findings included moderate, but significant, correlations between EGSCP and Supportive childrearing while negative correlations were found between EGSCP and Controlling childrearing. SEBs was also shown to play an important role in parental well-being, with positive correlations with Satisfaction (Ballenski and Cook 1982; Jones and Prinz 2005) and Self-esteem (Cutrona and Troutman 1986) and negative ones with Stress (Gross and Tucker 1994, McCurdy 2005). These results converge on viewing parents' SEBs as important contributors to children's outcomes: high SEBs are related to low Externalizing and Internalizing behavior, and high Social competence. Previous theoretical formulations and empirical findings have suggested both direct and indirect relations between parents' SEBs and children's outcomes. The bi-directional nature of the relationships between parents' and children's

adjustment has also been extensively remarked (Gross and Tucker 1994; Kuczynski 2003; Patterson 1982).

The present study also confirms that SEBs and Mastery Motivation are strongly related (Bandura 1977). The results for the two other related cognitive constructs are less consistent. The conceptual refinement of these measures are nevertheless congruous with the Social Learning Theory. Following Skinner's classification (1985), Control of Outcome and Responsibility are beliefs about environmental contingencies (controllability) while SEBs are beliefs about self. While less predictive, beliefs about controllability are necessary and complementary to SEBs to understand why people strive for competence (Bandura 1989). As suggested by Haidt and Rodin (1999), "people are motivated to reach competence and mastery, their motivated behavior is sustained by their beliefs about self-efficacy and controllability, and the development of these motivations and beliefs critically depends on the fit between the individual and the multiple social systems he or she participates in, which can either support or inhibit efficacious, agentic behavior" (p. 333). In the parenting framework, our results further suggest that beliefs about Controllability may sometimes tap unrealistic thoughts about the child's malleability.

Clinical implications are evident. Indeed, interventions aiming to enhance parental SEBs have been demonstrated to empower parents by increasing their competence in supportive childrearing, autonomy demands, monitoring, setting rules and being responsive (Tucker et al. 1998) and by decreasing their child's behavioral problems (Sanders and Woolly 2005; Sofronoff and Farbotko 2002). Moreover, focusing on other related constructs may help clinicians to explore the complex cognitive processes underlying parental competence. For example, working on an over-strong sense of responsibility (depressed explanatory style) may help the parents to feel more efficacious and committed to their parenting role.

The EGSCP questionnaire described in the present study is a promising tool. It was based on a strong conceptual framework and displayed good psychometric properties. The assessment of several domain-specific SEBs as well as three related cognitive constructs provided a comprehensive view of mothers' and fathers' cognition. The refinement of the SEB concept in the parenting context and the availability of a validated instrument could have direct empirical and clinical implications for, for example, the development of appropriate intervention strategies with parents rearing hard-to-manage children.

Despite its strengths, this study suffers from several limitations. While our results supported the validity and the reliability of the questionnaire, other studies could extend its psychometric properties. First, it could be that the relations obtained were due to shared method variance since all the measures were obtained with parental reports. Parental self-reports could also introduce several response biases, especially social desirability, that could not be ruled out or controlled in the present study. Therefore, future studies could control for response biases and refer to criterion variables assessed by independent informants (e.g., reports by children or systematic observation). Second, our study involved correlational and cross-sectional designs while theory and research findings suggested that self-efficacy was dynamic and part of a transactional process (Bandura 1977; Gecas 1989). Therefore, the relationships that were observed are limited by the reliance on cross-sectional designs and might be better explicated using longitudinal designs. Third, the variables that were explored in the present study represented only part of the potential correlates of parental SEBs. Indeed, previous studies identified parental features, history factors, contextual variables, and children's characteristics likely to differentially covary with parents' sense of self-efficacy. Fourth, the sample used in the current research is quite homogeneous. To ensure the stability of the factorial structure, the eight-factor solution should be replicated with other independent samples from diverse cultural and economic groups. Also, test-retest reliability, which implies within-subject stability over time, was not assessed in the present study. Fifth, the test's ability to discriminate between parents rearing normally-developing children and parents rearing problematic children should be explored further. Finally, the current questionnaire was developed and validated only with parents of young children, and its use should be limited to such parents until further validation would be carried out. The scales measuring domain-specific SEBs should be adapted according to the age of the target children and according to their developmental needs.

Appendix I: Echelle Globale du Sentiment de Compétence Parentale (translated from French)

Domain-Specific SEBs Sub Scale

Discipline

Disc1	I have trouble getting my child to listen to me.
Disc2	Despite my efforts, I find it is hard to influence the way my child behaves.
Disc3	Generally my children obey me and this pleases me.
Disc4	When my toddler test the limits that I have set up, I find myself becoming extremely discouraged.
Disc5	My child often behaves in a manner very different from the way I would want him/her to behave.

Disc6 Sometimes I feel that I don't have enough control over the direction my child's life is taking.
Disc7 When my child gets angry, I can usually deal with him/her if I stay calm.

Play

Play1 Playing is a part of my relationship with my child that I have very little difficulty with.
Play2 I am able to get actively involved in playing with my child.
Play3 I am a fun playmate for my toddler.
Play4 I can always think of something to play with my child.
Play5 Sitting down regularly with my child to read or do some other one-on-one activity is not difficult for me.

Nurturance

Nurt1 My child feels very loved by me.
Nurt2 My toddler knows that I understand when his/her feelings are hurt.
Nurt3 I think that my child knows by my behavior how much I really adore him/her.
Nurt4 I am definitively an adequately nurturing parent.
Nurt5 I am able to sense when my child is starting to become distressed.

Instrumental Care

Instr1 I am able to provide my child with a comfortable amount of daily structure.
Instr2 I have been successful in getting my child to stick to a regular daily schedule.
Instr3 I am not very good at getting my child to stick to a regular daily schedule.
Instr4 I don't seem to be able to establish a regular bed time routine with my child.
Instr5 I feel like I have no control over my child's daily habits (sleep habits, eating habits,…).

Teaching

Teach1 I have some difficulty figuring out the appropriate level of instruction when I am trying to explain something to my child.
Teach2 Although I would like to help my child learn more about his/her surroundings, this is a area of parenting that I do not feel well-equipped for.
Teach3 I am probably not that great at teaching my child about the world.

Related Cognitive Constructs Sub Scales

Parental Responsibility

Resp1 My child's behavior problems are no one's fault but my own.
Resp2 The misfortunes and success I have had as parent are the direct result of my own behavior.
Resp3 Most childrens' behavior problems would not have develop of their parents had had better parenting skills.
Resp4 Children's behavior problems are often due to mistakes their parents made.

Parental Control of Outcome

Outc1 In every hard situation a parent experiences with its children, a good and a bad childrearing behaviour always exist.
Outc2 Most parents do not imagine how the way their child develops is influenced by external and contextual events.
Outc3 It always exists a solution to cope with children's problems.
Outc4 The problems of taking care of a child are easy to solve once you know how your actions affect your child.

Mastery Motivation

Mast1 Even if your child frequently tantrums, a parent should not give up.
Mast2 If your child tantrums no matter what you try, you might as well give up.
Mast3 I am often too preoccupied with my own problems to keep up with my child's changing emotions.
Mast4 Sometimes when I'm tired I let my children do things I normally wouldn't.

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