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ORIGINAL PAPER

Trust in organismic development, autonomy support, and adaptation among mothers and their children

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Abstract The current studies examined relations between mothers' trust in organismic development, autonomy supportive parenting, and adaptation among mothers and their young children. Study 1 showed that trust in organismic development was distinct from optimism, neuroticism, and social desirability whereas it correlated with having relaxed expectations for developmental milestones and making fewer social comparisons about one's child. Study 2 used observational methods to demonstrate a significant link between trust in organismic development and mothers behaving in an autonomy-supportive rather than controlling manner toward their 1-year-old child during puzzle solving activities. Study 3 used a 1 year prospective design to show that trust in first time mothers was associated with better maternal and child adaptation over time, controlling for initial levels of adaptation and child temperament. Study 4 explored possible social/political antecedents of trust in organismic development by comparing the beliefs of first time mothers from Canada and Norway. The four studies suggest that trust in organismic development fosters autonomy supportive parenting practices and positive maternal and child adaptation. These findings are discussed from the perspective of self-determination theory.

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Self-determination theory conceptualizes development in terms of innate and universal psychological needs (Deci and Ryan 1980, 1985, 1991, 2000). At the core of self-determination theory is an organismic meta-theory that holds that human beings are not passive recipients of external influences, but that they are intrinsically motivated beings, with specific psychological needs (autonomy, competence, and relatedness) and specific capacities and tendencies that evolved in order to fulfill those needs (Deci and Ryan 2000). Self determination theory suggests that children have an innate propensity toward mastery of their environment, and that the internalization of values, behaviours, and attitudes in the social surround is a spontaneous, natural process (Ryan 1995). It is not merely that children can develop well without external pressure and control: external pressure that goes against their developmental tendencies can actually have a negative effect on their development. The theory acknowledges the role of the social context, which can either facilitate or undermine child development. According to self determination theory, parents would be wise to collaborate with the intrinsic developmental process instead of interfering with it by setting up their own agenda for their children.

A central tenet in self-determination theory is that there are two critical processes in development—intrinsic motivation and internalization—and that both are likely to function optimally when children's autonomy is supported by parents and teachers (Deci and Ryan 2000). Autonomy

support is defined as active support of the child's capacity to be self-initiating and autonomous (Ryan et al. 2006). It has typically been operationalized in terms of 4 ingredients: (1) providing rationale and explanation for behavioural requests; (2) recognizing the feelings and perspective of the child; (3) offering choices and encouraging initiative; (4) minimizing the use of controlling techniques (Mageau and Vallerand 2003). Experimental studies have shown that autonomy support is associated with greater children's intrinsic motivation (Koestner et al. 1984) and internalization of important but uninteresting activities (Joussemet et al. 2004).

Autonomy support is the opposite of controlling behaviour, which is defined as any behaviour that exerts pressure on a child to act, think, or feel in a particular manner (Ryan 1982). Experimental studies have shown that many commonly used motivational strategies, such as offering rewards and praise, or setting up competitions, can undermine intrinsic motivation if they are experienced as controlling (Deci et al. 1999). Indeed, a field study found that grade school teachers' tendency to use controlling tactics to motivate students was associated with children reporting lower intrinsic motivation and self esteem (Deci et al. 1981). Several subsequent school based studies have replicated this pattern of results (Flink et al. 1990; Ryan and Grolnick 1986).

It is important to distinguish autonomy support from permissiveness and neglect. In the context of parenting, permissiveness refers to the extent to which parents fail to provide structure in the form of clear and consistent guidelines, rules and expectations for child behaviours (Grolnick and Ryan 1989). Neglect refers to a lack of parental involvement with children. Structure supports competence development by helping children develop a clear sense of action–outcome relations and involvement supports the development of feelings of relatedness (Grolnick and Ryan 1989). A parent can be autonomy-supportive and also provide involvement and structure, at the same time; indeed, such a combination is considered optimal (Grolnick and Ryan 1989).

Studies have found that parental autonomy support relates positively to child outcomes. An initial study assessed autonomy-supportive parenting style from structured interviews given by parents of elementary-school children (Grolnick and Ryan 1989). Greater parental autonomy support was associated with healthier forms of self-regulation in children, greater classroom competence and less acting out, based on teacher ratings. There was also a positive association between autonomy-supportive parenting and objective achievement indexes (i.e. children's achievement scores and grades). Similar, positive effects were also found in a longitudinal study that included teacher-rated indicators of social and academic adjustment (Joussemet et al. 2005). The benefits of autonomy support have also been documented for younger children. Mothers who displayed autonomy-supportive behaviors had infants who displayed greater persistence and competence 8 months later (Frodi et al. 1985).

A variety of factors can lead parents to be controlling rather than autonomy supportive. Grolnick (2003) argues that parental experiences of pressure lead to more controlling behaviours because autonomy support requires time and psychological availability, which are both reduced under pressure. Internal forms of pressure, like worry and anxiety, have such negative effects (Grolnick et al. 2002). Contextual stress (e.g. low SES, stressful life events) has also been associated with controlling parenting behavior (Conger et al. 1995; Dodge et al. 1994; Grolnick et al. 1996b; Zussman 1980). One recent study suggested that parents' perceptions of threat in their child's environment (concern and worry about the future, limited resources and unpredictability) were also associated with controlling behaviours (Gurland and Grolnick 2005). Finally, when mothers become ego-involved in the performance of their child, they tend to act more controlling (Grolnick et al. 2002). Thus, both individual and situational factors seem to play a role in the level of autonomy support versus control displayed by parents.

Another important parental factor that may predispose parents to behave in controlling ways is whether they trust in their child's ability to develop in an autonomous fashion. As mentioned previously, self-determination theory supports the idea that children play an active role in their own development (Deci and Ryan 2000). Parents may vary in how much they believe or trust that children's development naturally takes place. In our view, trust in organismic development has both cognitive and affective components. These are beliefs and emotions related to how child development typically unfolds, and to how the development of one's own child will unfold. Parents who trust that development occurs naturally will have relaxed rather than rigid expectations and goals for the development of their child, and will feel less responsible for their child reaching these goals. Holding such beliefs should translate into relatively lower level of stress in parents, as well as in autonomy-supportive parenting behaviors that will foster better parent and child adaptation. Such beliefs, and their accompanying expectations and behaviours, may be especially important to the adaptation of first-time mothers who face dramatic changes in family functioning, social roles, and marital dynamics, all of which can induce considerable stress (Hopkins et al. 1984).

Development may be nonlinear in nature, stalling sometimes, or even regressing temporarily (Bornstein 2002). The ages at which individual children achieve developmental milestones typically vary enormously. For

example, some children say their first word at 9 months of age, others at 29 months of age. Similarly, children of a given age vary dramatically among themselves on nearly every index of development. For example, at 1 year of age, some toddlers comprehend 10 words, others 75. Expecting such high variability in normal child development contributes to having trust in organismic development and allows new parents to attribute less long-term significance to these individual differences in developmental pace.

We thus propose that parental trust in organismic development can promote successful adaptation among mothers and children by decreasing parental stress and by promoting parenting behaviors that allow the child's own organismic processes to play a central role in their development. Parents who trust organismic development may experience, on average, a lower level of stress in their parental role than parents who have rigid expectations, attribute excessive importance to the age at which their child reaches each milestone, and feel completely responsible for their child's development. Trust in development also should help parents to be more attuned with the child's needs and interests, and respect the pace of his/her development. Trust should foster a parenting style that is autonomy-supportive rather than controlling, with an emphasis on responsiveness and facilitation rather than monitoring and stimulation. For example, parents who trust organismic development will avoid pressuring their child to accomplish a task that the child is not developmentally ready to do. Because there is less worry about progress and parental responsibility, the temptation to push and control children will be diminished.

It is important to keep in mind that the concept of trust in organismic development does not imply a relinquishment of parental responsibility or guidance. Rather than decreasing involvement and failing to provide structure, which would be characteristic of neglectful or permissive parenting, trust is seen as a form of confidence that allows parents to act in ways that support their children's intrinsic motivation and self-regulation. Trust should decrease parents' tendency to compare their child to other children and reduce the urge to intervene as an attempt to "correct" the situation or to accelerate the rate of development.

Present studies

The main purpose of this investigation was to examine the relations of mother's trust in organismic development to maternal and child outcomes reflecting successful adaptation. Study 1 explored whether trust in development was associated with more relaxed normative expectations, lower use of social comparisons, and the use of an authoritative rather than permissive parenting style. Study 2 used observational methods with mother infant pairs to confirm the hypothesis that maternal trust would be associated with mothers' behaving in an autonomy supportive rather than controlling manner toward their child. In Study 3, a 1-year prospective design was used to examine whether maternal trust in organismic development would be associated with better maternal and child adaptation over time, measured by competence/satisfaction and low behavioural problems, respectively. These studies included several control variables, including family demographics, child temperament, and maternal personality measures. Finally, Study 4 explored possible social/political antecedents of trust in organismic development by comparing the beliefs of first time mothers from Canada and Norway.

Study 1

Study 1 explored the reliability and validity of our measure of trust in organismic development. We expected the trust in organismic development scale to display acceptable levels of internal and temporal consistency. Trust in organismic development was expected to be unrelated to children's gender and age. It was also expected to be unrelated to maternal characteristics such as response style, neuroticism, and optimism. Trust in organismic development was expected to be associated with the following parenting characteristics: relaxed expectations for the attainment of developmental milestones, minimal use of social comparisons related to one's child, and a relatively authoritative rather than permissive parenting style.

Method

Participants

One hundred and fifty-three first-time mothers with children under the age of two participated in this study. They were all English- and French-speaking Canadians. Thirty-five percent of participants were native English-speakers, fifty-two percent were French-speakers, and thirteen percent reported another native language. Mean yearly family income was between $50,000 and $75,000 CAD, and 63% of participants reported that their family income was in this range or higher. Most of the mothers were university educated (e.g., 49% completed an undergraduate degree, 18% completed graduate school). The average age of children was 11.4 months.

Procedure

Participants were recruited from the community through the use of newspaper advertisements, flyers, and through

social networking among new mothers in Quebec, Canada. Interested mothers who met criteria for the study (being a mother for the first time, having a child under 2 years old) were sent a questionnaire by mail, along with a $20.00 CAD gift certificate at a popular bookstore, and were asked to return the questionnaire in the stamped and addressed envelope provided. The instruments included in the questionnaire were originally constructed and written in English, and translated into French by bilingual French-Canadian researchers. Translated versions of the questionnaire were also back-translated to ensure that the meaning of each item was conveyed accurately. Discrepancies were resolved through discussion. Of the 162 questionnaires that were sent out, 153 or 94.4% were completed and returned.

Seventy participants in the sample were sent the trust in organismic development scale a second time, after 4 weeks, in order to assess the scale's test–retest reliability. Sixty-seven participants completed the re-test measure. This retest sample also completed the measures of social desirability, optimism, neuroticism, maternal authoritativeness and permissiveness, and maternal social comparisons. Thus, these measures were available for only 67 of the participants.

Measures

Trust in organismic development. Based on Self-Determination Theory's view of a child as an active, self-determined organism with the innate capacity for growth and development, eight face valid items were derived to tap the extent to which parents believe that a child's development will typically proceed in a natural and healthy manner, and feel confident that this will happen for their own child.[1] Participants were asked to rate each statement on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree). Items consisted of general beliefs about child development and the need for parental intervention (e.g., "I believe that most children develop in a healthy way, at their own pace"), feelings of trust regarding their child's development (e.g., "I think it's perfectly normal for my child to sometimes be slower than average when reaching a new stage in his/her development"), and the tendency to feel responsible for one's child's development (e.g., "I often wonder if I'm doing the right things in order for my child to grow up healthy", reverse scored). Four items are reverse-scored. A trust score was obtained by averaging the scores on each of the items, with higher scores reflecting greater trust in organismic development. The reliability of the scale was adequate, Cronbach alpha = .75. A principal components factor analysis of the eight developmental trust items revealed that a single dominant factor (Eigen value = 3.01) accounted for 38% of the variance among items. Each of the items loaded at least .37 on this factor. A second very small factor emerged, Eigen Value = 1.12. Appendix 1 provides the items for the developmental trust scale along with the factor loadings for the first factor from studies 1, 2, and 3.

Social desirability. The Marlowe-Crowne Social Desirability (Crowne and Marlowe 1960) is a 33-item measure that assesses socially desirable responding. In the current study, the scale was shortened to 20-items that were most relevant to new mothers. The items describe either desirable but uncommon behaviors (e.g., "I'm always willing to admit when I make a mistake") or undesirable but common behaviors (e.g., "I like to gossip at times"). Participants were asked to answer "True" or "False" for each statement. Nine of the 20 items were negatively keyed and were reverse-scored. Items are keyed in the "True" direction, with higher scores indicating higher need for approval. Alpha coefficients in previous studies were found to range from .73 to .88 (Crowne and Marlowe 1960; Fisher 1967; Tanaka-Matsumi and Kameoka 1986). Cronbach's alpha was .66 in the current study.

Optimism. The Life Orientation Test (Scheier and Carver 1985) was used to measure optimism. The LOT is an 8-item self-report measure designed to assess expectancies of positive versus negative outcomes. Participants were asked to rate the extent of their agreement with each statement on a 5-point scale from 0 (strongly disagree) to 4 (strongly agree). Sample items include: "In uncertain times, I usually expect the best," and "I hardly ever expect things to go my way." (reverse-scored) Four items are worded in a positive direction and four are worded in a negative direction. An optimism score was computed, once the negative items were reverse-scored, by summing all items, with higher scores reflecting greater optimism. Previous studies have reported Cronbach's alphas ranging from .76 to .82 (Scheier and Carver 1985; Scheier et al. 1994). The current study yielded a Cronbach's alpha of .84.

Neuroticism. A modified version of the NEO-Five Factor Inventory (Costa and McCrae 1992) was used to assess neuroticism. The NEO-FFI is a 60-item measure, with five 12-item scales designed to measure five dimensions of personality: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. The neuroticism subscale was used in its entirety. Participants were asked to rate each item on a 5-point scale that ranges

[1] The first version of the trust scale included 12 items, but four of those items were abandoned because they seemed to be assessing whether the child was in fact developing normally, which could have been misleading in the interpretation of the results. The four items that were dropped were: "I think my child is developing normally", "I often worry about my child's development", "I often wonder if my child is developing normally", and "I am confident that my child will continue to develop in a healthy way in the future".

from 1 (strongly disagree) to 5 (strongly agree). Sample items include: "I often feel inferior to others" and "When I'm under a great deal of stress, sometimes I feel like I'm going to pieces". Cronbach's alpha for neuroticism was .86.

Child temperament. A shortened version of the Infant Characteristics Questionnaire (Bates et al. 1979) was used to assess mothers' perceptions of their child's temperament. The original ICQ consisted of 3 separate forms for infants of ages 6, 13, and 24 months, respectively, that contain either 24 or 32 items that are rated on a 7-point scale. Seven items assessing difficult temperament that were applicable to different-aged children were used in the present study. Sample items include: "how much does your baby cry and fuss in general?" and "what kind of mood is your baby generally in?" Internal consistency for this scale was .79 in the original validation study (Bates et al. 1979) and was .87 in the current study.

Maternal normative expectations. Developmental norms were assessed for five different developmental milestones by asking mothers when they think most children reach each milestone. For the purpose of clarity, a brief definition or example was given for three of these five milestones. The milestones were: (1) sleeping through the night (sleeping a minimum of five consecutive hours during the night); (2) walking (walking a few steps unassisted); (3) stopping to use a pacifier; (4) being toilet-trained (staying dry overnight, and using the toilet most of the time); (5) learning to read. For each milestone, five categories of age were listed, and mothers were asked to circle the response that best corresponded to what they thought. For example, for sleeping through the night the five categories were (a) 0–3 months; (b) 4–6 months; (c) 7–9 months; (d) 10–12 months; (e) more than 12 months. Higher scores corresponded to more relaxed normative expectations. The internal reliability across the five milestones was alpha = .56.

Maternal permissiveness and authoritativeness. A modified version of the Parenting Practices Questionnaire (Robinson et al. 1995), which is based on Baumrind's (1971) authoritative, authoritarian, and permissive typologies was used to assess parental permissiveness and authoritativeness. The PPQ is a 62-item parent self-report measure that was originally developed to assess parenting styles among parents with preadolescent children. However, because no measure existed to assess parenting styles of infants and toddlers, only items that seemed appropriate for very young children were used in the current study. Eight items from the permissive subscale were used. Each item was rated on a scale from 1 (never) to 5 (always). Sample items include: "I spoil my child", and "I find it difficult to set limits with my child". Cronbach's alpha for this scale was .61. Eight items were also used from the authoritative parenting scale. Sample items include "I give praise when my child is good," and "I convey my expectations regarding behavior to my child before s/he engages in an activity." Cronbach's alpha for this scale was .60. The permissive and authoritative scales were uncorrelated, $r = -.10$. Items from the authoritarian scale were not used because they inquired about punitive behavior and were thought to make parents uncomfortable with the survey.

Maternal social comparisons. The extent to which mothers compare themselves as parents and compare their children with other children was assessed by using a modified version of two scales, the Physical Appearance Comparison Scale (Thompson et al. 1991) and the Body Comparison Scale (Fisher and Thompson, Unpublished manuscript; Thompson et al. 1999). The two original scales measure the frequency with which participants compare their appearance to the appearance of others on a 5-point scale ranging from never to always. The current scale consisted of 12 items whose content was modified in order to assess the extent to which parents compare their child to other children, and to the norms they read about, as well as the extent to which parents compare themselves to other parents. Sample items include: "I compare my child's language development to the language development of other children" and "I compare my parenting skills to the parenting skills of other mothers I see." Cronbach's alpha for the current scale was .88.

Results

Scores on the trust scale ranged from 1.75 to 6.25, with a mean of 4.08 and a standard deviation of .99. The scores were normally distributed, with skewness and kurtosis values within the normal range. Cronbach's alpha yielded an internal consistency of .75. Test–retest reliability over a 4-week interval was .78.

Table 1 presents the correlations of trust in organismic development with demographic factors, social desirability, optimism, neuroticism, and mother's perception of their child's temperament. As shown, trust was unrelated to these measures, suggesting that parental trust was not based on a mother's tendency to present herself in a socially desirable manner, or on her general level of optimism or neuroticism. Mothers also did not appear to report greater trust simply because they have children with an easy temperament. Baby's gender, mother's education level, and family income were unrelated to trust.

Table 1 also presents the correlations of trust in organismic development with four parenting variables. It can be seen that trust was significantly related to having more relaxed norms for developmental milestones and with making fewer social comparisons about their child. It can also be seen that trust in organismic development was

Table 1 Pearson correlations of trust in organismic development with control variables: Study 1

Variable	*n*	*r* with Trust
Baby's gender (male = 1/female = 2)	151	.11
Baby's age	151	.01
Baby's difficult temperament	151	−.05
Mother's education	151	.09
Family income	147	.16
Social desirability response style	67	−.06
Optimism	67	.12
Neuroticism	67	−.05
Normative expectations	116	.25*
Social comparisons	67	−.31*
Permissive style	67	−.25*
Authoritative style	67	−.06

* $p < .05$

significantly negatively related to a permissive parenting style and unrelated to an authoritative parenting style. Additional correlational analyses among the personality and parenting variables revealed only two significant relations. Neuroticism was significantly negatively related to optimism (r = −.30) and significantly positively related to making social comparisons (r = .60).

Brief discussion

The measure of trust in organismic development was shown to have acceptable levels of internal and test–retest reliability. Correlational analyses indicated that trust was unrelated to social desirability, neuroticism, and optimistic personality whereas it was related to parental indicators of relaxed normative expectations and minimal social comparisons. Interestingly, trust in organismic development was significantly negatively related to a permissive parenting style. However, it was not related to authoritative parenting. The authoritativeness scale used in this study contained several items that were more related to structure and involvement rather than to autonomy support (e.g. "I convey my expectations regarding behavior to my child before s/he engages in an activity"; "I express affection by hugging, kissing, and holding my child"; "I joke and play with my child"). Some other items, arguably, were even controlling in nature (e.g. "I give praise when my child is good", which represents contingent praise). The only item that was significantly correlated with trust was "I show my child appreciation for what s/he tries or accomplishes" (r = .25). Moreover, the average scores for the authoritativeness scale were very high for most of the items (the mean score was 4.33, on a scale of 1 to 5, SD = .33), which suggests a ceiling effect. Thus, it seems that the authoritativeness scale used in this study was not an accurate measure of autonomy-support, which could explain the absence of correlation with the trust scale.

Study 2

Study 1 showed that trust in organismic development was related to having relaxed expectations for developmental milestones and making fewer social comparisons about one's child. Study 2 used observational methods to examine the association between mother's trust in organismic development and their behaving in an autonomy-supportive rather than controlling manner toward their 1-year-old child. Mothers' behaviour toward their child was coded from three structured mother–child play sessions videotaped in the home. Autonomy support was measured in terms of flexibility and perspective-taking, and following the infant's pace. Competence support was also assessed. Children's cognitive development and temperament were measured in a separate session with the Bayley Scales of Infant Development II (BSID) (Bayley 1993). We hypothesized that trust in organismic development would be significantly positively associated with mothers' behaving in a more autonomy supportive rather than controlling manner toward their child, and that this relation would be independent of the child's cognitive development and temperament.

Method

Participants

Sixty-two mothers with young children participated in this study. The average age of the mothers was 30.1 years old. Eighty-one percent of participants reported that French was the main language spoken at home, seven percent reported that it was English, and eight percent reported that it was another language. All participants could speak either French or English relatively well. Mean yearly family income was between $60,000 and $79,000 CAD, and 69% of participants reported that their family income was in this range or higher. The mothers had been in school for an average of 14.7 years. Twenty-five percent of them completed an undergraduate degree, and twenty-three percent completed graduate school. Each family was seen on three separate in-home visits. The first visit occurred when the infants were around 6 months old, the second visit occurred when the infants were 12–13 months old, and the third visit was conducted when the infants were 14–16 months old. There were 28 boys and 34 girls.

Procedure

Participants were recruited via birth lists provided by the Commission de l'accès à l'Information du Québec. The study was part of a large longitudinal project undertaken by Annie Bernier to examine attachment and quality of relatedness among mothers and children. Five specific neighbourhoods of Montreal were selected. Mothers were sent a letter explaining the project. Then, a research assistant called them at home to ask if they were interested in participating. Children received a small toy for each visit.

During the first in-home visit, mothers completed a questionnaire about socio-demographic information (age, education, income, etc.). Subsequently, two in-home visits lasting approximately 1.5 h were conducted with the mother-infant dyads (at 12–13 months old, and at 14–16 months old). The visits were conducted by students trained in child assessment and family observation.

Measures

Trust in organismic development. Trust in organismic development was measured at the second visit using the same measure as in Study 1.

Infant cognitive development. Infant cognitive development was evaluated during the second visit (when infants were 12–13 months old) using the Bayley Scales of Infant Development II (BSID) (Bayley 1993), the most widely used and validated assessment of early child development. The BSID provides an index of both mental and psychomotor development. For the purposes of the present study, only the mental development index (MDI) was used. The MDI includes a variety of abilities: sensory/perceptual acuities, discriminations, and response; memory, learning and problem solving; vocalizations, beginning of verbal communication; and habituation.

Observed temperament. The BSID (Bayley 1993) also includes a behavioral rating scale (BRS) that is used to assess infants' behavior while they complete the mental development scales. The BRS is often used as a measure of child temperament. For this age group, the BRS consists of 28 items that describe child behavior during the test situation. In particular, the items focus on orientation/engagement, emotion regulation, and motor quality.

Autonomy-support and competence support. Autonomy-support and competence support were measured during the third visit. Infants completed three problem-solving tasks with their mothers. Mothers were told that the goal of these tasks was to see what their child could do, and that they could help their child if they wished to. The tasks were videotaped and lasted 2 min each. They involved an increasing level of difficulty. In the first task (easy), the child had to build a tower using blocks (as high as he/she could). In the second task (moderately challenging), the child had to complete a three-piece puzzle. In the third task (too difficult for infants that age), the child had to complete a nine-piece puzzle.

Autonomy-supportive maternal behaviours were rated in terms of: (1) flexibility and perspective-taking (taking the infant's perspective while keeping him or her focused on the task); and (2) following infant's pace (mother follows infant's pace rather than imposing her own, infant plays an active role in completing the task, infant is given the opportunity to make choices). Ratings were made on a 1–5 scale ranging from "not at all" to "a great deal".

Competence support from the mother was also rated using two five-point scales: (1) behaving to support infant's sense of competence (intervening according to infant's needs, adapting the task to create an optimal challenge); (2) providing verbalizations that facilitated competence development (encouragement, informative feedback, and hints).

The three tasks were also coded to measure thwarting behaviors using 5-point scales. Thwarting autonomy was measured in terms of (1) demonstrating a lack of flexibility and perspective-taking (rigidity in keeping the child focused on the task, no perspective-taking, no acknowledgement of the child's feelings) and (2) failure to follow infant's pace (mother imposing her own pace on the child, interrupting the child's pace, the child becomes an observer). Thwarting competence was measured in terms of (1) behaving in ways that undermined infant's sense of competence (intervening too quickly and excessively, emphasizing the child's incompetence) and (2) making verbalizations that undermined the development of competence (back-handed compliments, unnecessary instructions, authoritarian tone of voice).

Thirty-eight interactions were coded by a second observer to establish inter-rater reliability. The inter-rater reliability for judgments of autonomy-support, autonomy thwarting, competence support, and competence thwarting were excellent—all Kappas were above .80.

The internal reliabilities across the six ratings (2 items by 3 tasks) for the four scales were acceptable: Autonomy support, alpha = .78; autonomy thwarting, alpha = .69; competence support, alpha = .92, competence thwarting, alpha = .78.

Mothers were rated significantly higher on supporting infants' autonomy (M = 3.35; SD = 1.17) than on thwarting autonomy (M = 1.67; SD = 0.93), t (62) = 6.87, $p < .001$. Mothers were also rated significantly higher on supporting infants' competence (M = 3.35; SD = 1.08) than on thwarting competence (M = 1.49; SD = 0.66), t (62) = 9.27, $p < .001$. Mothers' scores for support of autonomy and thwarting of autonomy were significantly

negatively correlated (r (62) = −.69), we therefore created an index of autonomy support by subtracting the thwarting mean from the supporting mean for each mother. A similar procedure was recently employed by in a study of parental autonomy support (Soenens et al. 2007). Similarly, because mothers' scores for support of competence and thwarting of competence were significantly negatively correlated (r (62) = −.64), we created an index of competence support by subtracting the thwarting mean from the supporting mean for each mother. The new indexes of autonomy support and competence support were themselves highly correlated, r (62) = .78, $p < .001$.

Results

Preliminary analyses

Scores on the trust scale ranged from 2.00 to 6.25, with a mean of 3.86 and a standard deviation of 0.96. The scores were normally distributed, with skewness and kurtosis values within the normal range. Cronbach's alpha yielded an internal consistency of .72.

A factor analysis of the eight developmental trust items revealed that a single dominant factor (Eigen value = 2.87) accounted for 36% of the variance among items. Each of the items loaded at least .35 on this factor.

Correlational analyses revealed that trust in organismic development was unrelated to family income, gender, age, temperament, and cognitive development. However, trust in organismic development was significantly positively related with mother's years of education, r = .31, $p < .05$. Children's gender and age were unrelated to mothers' level of autonomy support and competence support so gender and age will not be included in the main analyses that follow.

Central analyses

To examine the relation between trust in development and maternal support of autonomy and competence during the play sessions, two hierarchical linear regression analyses were conducted with the indexes of autonomy support and competence support as the dependent variable. Mothers' level of education and income were entered together with the child's mental development index score and Bailey temperament score as a first set of predictors. Developmental trust was entered next. The regression equation for autonomy support was significant, multiple R = .48, F (5,52) = 2.83, $p < .05$. Table 2 shows the results. It can be seen that the only significant individual predictor of mother's autonomy support was trust in development, beta = .34, $p < .01$. Mothers who were high in trust in development were significantly more likely to display autonomy-supportive rather than controlling behaviors when playing with their child. No other effects approached significance (p's > .10).[2]

Table 2 Standardized regression coefficients of autonomy and competence support: Study 2

Variable	Autonomy support (n = 57)		Competence support (n = 57)	
	Beta	*t*	Beta	*t*
Education	.10	0.63	−.07	−0.40
Income	.25	1.62	.10	0.58
Cognitive development	.17	1.26	.11	0.72
Observed temperament	.13	0.92	.10	0.66
Trust in organismic development	.31*	2.27	.24	1.61

* $p < .05$

The regression equation for competence support did not approach significance, multiple R = .28, F (5,52) = 0.81. No individual predictors approached significance (p's > .10). The relation of trust in development to competence support was not significant.

Brief discussion

The purpose of study 2 was to examine the relations of mother's trust in organismic development to mother's support of their infants' autonomy and competence. As expected, maternal trust was associated with mothers' behaving in an autonomy supportive rather than controlling manner toward their child, while controlling for maternal education, family income, child mental development and child temperament. These results suggest that mothers who have trust in organismic development are more likely to behave in an autonomy-supportive way with their children, and less likely to adopt controlling parenting behaviors. Trust in organismic development was not directly related to children's cognitive development or observed temperament, thus reducing concern that the measure may simply reflect individual differences in the adaptive capacities of children. Trust in development was not significantly related to mother's support of their infants' competence, suggesting some degree of specificity in the link between maternal trust and autonomy support.

[2] The same regression models were also conducted separately for the two components of the autonomy support variable: promotion of autonomy and thwarting autonomy. The regression of promotion of autonomy revealed a significant positive relation for organismic trust, beta = .30, t = 2.08, $p < .05$. The regression of thwarting autonomy revealed a highly significant negative relation, beta = −.51, t = −3.77, $p < .001$. Thus, trust in organismic development seemed to be especially related to mothers not being controlling or intrusive.

Study 3

Study 2 used observational methods to show the association between mother's trust in organismic development and their behaving in an autonomy-supportive rather than controlling manner toward their 1-year-old child. Study 3 used a 1 year prospective design to examine the association between trust in organismic development in first time mothers and maternal and child adaptation over time, controlling for initial levels of adaptation and child temperament.

Method

Participants

Mothers who had participated in Study 1 were followed up approximately 1 year later, when their child was a toddler. Mothers were invited to participate after 1 year if their child was at least 18 months old by that time. The mothers who had a child under this age after 1 year were contacted later, when their child reached 18 months. Of the 153 mothers who were sent questionnaires, 116 returned them, for a response rate of 76%. Eleven of the envelopes were returned by the postal service because of a change of address. Of these 116 participants, 37% were native English-speakers, 48% were French-speakers, and 15% reported another native language. Mean age of mothers was 31.5 years, and mean age of their toddler was 23 months. Sixty percent of the toddlers were boys, and 40% were girls. Ninety-four percent of the mothers reported that they were living with their child's father. Mean yearly family income was between $50,000 and $75,000 CAD, and 70% of participants reported that their family income was in this range or higher. Most of the mothers were university educated (e.g., 48% completed an undergraduate degree, 20% completed graduate school).

Procedure

Mothers who had participated in Study 1 were sent a questionnaire by mail when their child had reached (at least) 18 months. Participants were asked to return the questionnaire in the stamped and addressed envelope provided. Participants were sent a $15.00 CAD gift certificate at a popular bookstore after retuning their completed questionnaire.

Measures

Trust in organismic development. The measure for trust in organismic development used in Study 1 and in Study 2 was used in this study. The reliability of the trust measure was .75 at time 1 and .74 at time 2. A principal components factor analysis of the eight developmental trust items at time 2 revealed that a single dominant factor (Eigen value = 2.92) accounted for 36% of the variance among items. Each of the items loaded at least .31 on this factor. A second small factor emerged, Eigen Value = 1.49.

Maternal adjustment. To assess maternal adjustment, a modified version of the Self-Perceptions of the Parental Role instrument (Bornstein et al. 1998; MacPhee et al. 1986) was used. The original SPPR is a 22-item measure consisting of four scales that assess different aspects of the parental role: Competence, Satisfaction, Investment, and Role Balance. Each item is made up of a pair of statements that describe contrasting endpoints of a parenting dimension. Specifically, numbers from 1 to 6 were placed between the two opposing statements (e.g., "being a parent is a satisfying experience for me" versus "being a parent is not at all satisfying for me") such that a "1" indicated high satisfaction, and a "6" indicated low satisfaction. In the current study, 10 items from the Competence and Satisfaction subscales were used, 5 from each. Items were modified for the purpose of clarity, such that instead of choosing one side or the other, participants were asked to rate the extent to which each statement was true for them on a 6-point scale. In addition, the items were personalized (e.g. instead of "some parents feel," the modified version uses "I feel"). Higher scores indicated greater satisfaction or competence. Internal consistency for the competence and parental satisfaction subscales were acceptable (Cronbach alphas > .70). Mothers completed this measure at both time points. The competence and satisfaction scales were highly significantly correlated, r = .54, $p < .001$.

Child behavior problems. The Child Behavior Checklist for ages 1–5 (Achenbach 2000; Achenbach and Rescorla 2000) measures diverse aspects of a child's behavioral, emotional, and social functioning. The CBCL/1–5 was designed to be completed by parents or parent surrogates. The respondent is asked to rate 99 problem items as 0 for not true of the child, 1 for somewhat or sometimes true, and 2 for very true or often true, based on the preceding 2 months. A child's behavior problem score was obtained by averaging the scores on each of the 99 items, with higher scores reflecting more problems related to the child's behavioral, emotional, and social functioning.

Results

Preliminary analyses

Mothers' level of trust in organismic development at time 2 did not differ from the assessment at time 1, nor did their level of parental adjustment change significantly over the year (p's > .20). Trust in organismic development was

Table 3 Standardized regression coefficients of maternal adjustment and child behavior problems: Study 3

Variable	Maternal adjustment (n = 114)		Child problems (n = 114)	
	Beta	*t*	Beta	*t*
Set 1				
Education	−16	−1.73	−.09	−0.95
Income	.06	0.58	−.09	−0.88
Temperament	.03	0.36	.22*	2.31
Maternal adjustment time 1	.46**	5.12	−.22*	−2.27
Set 2				
Trust in organismic development time 1	.21*	2.44	−.23*	−2.64
Set 3				
Trust in organismic development time 2	.31**	2.64	−.23	−1.86

* $p < .05$, ** $p < .01$

highly stable over the year (r = .74, $p < .001$), whereas parental adjustment was moderately stable (r = .47, $p < .001$). Children's gender and age were unrelated to mothers' level of trust in development and to maternal adjustment and child behavior, so gender and age will not be included in the main analyses that follow.

Central analyses

To examine the relation between trust in development and maternal adjustment over time, a hierarchical linear regression analysis was conducted with maternal adjustment at time 2 as the dependent variable. Participants' level of education and income were entered together with child's temperament and participants' Time 1 score on maternal adjustment as a first set of predictors. Time 1 developmental trust was entered second. Time 2 developmental trust was entered third.

The regression yielded a significant multiple R of .56, F (8,106) = 6.07, $p < .001$. Table 3 shows the standardized regression coefficients (betas) and t-tests for each of the individual predictors. It can be seen that initial maternal adjustment was significantly positively related to later maternal adjustment. Trust in development at Time 1 was significantly positively associated with maternal adjustment at Time 2, over and above the effect of maternal adjustment at Time 1. Trust in development at Time 2 was also significantly positively associated with maternal adjustment at Time 2, indicating that mothers who increased in trust over the year also increased in their level of adjustment. No other effects approached significance in this regression (p's > .10).[3]

To examine the relation between trust in development and child behavior problems at Time 2, a hierarchical linear regression analysis was conducted with child behavior problems at Time 2 as the dependent variable. The first set of predictors was level of education, family income, child's temperament, and maternal adjustment at Time 1. Developmental trust at Time 1 was entered second. Developmental trust at Time 2 was entered third.

The regression yielded a significant multiple R of .50, F (8,106) = 4.25, $p < .001$. Table 3 shows the standardized regression coefficients (betas) and t-tests for each of the individual predictors. Difficult temperament at Time 1 was significantly positively associated with behavioral problems at Time 2. Maternal adjustment at Time 1 was significantly negatively associated with child behavior problems at Time 2. Trust in organismic development at Time 1 was significantly negatively related to child behavior problems at Time 2. Trust in development at Time 2 was marginally negatively related to child behavior problems at Time 2. No other effects approached significance in this regression.

Results from these two regression analyses were reproduced using structural equation modeling (SEM), where both maternal adjustment and child behavior problems were entered as dependent variables. Results are presented in Fig. 1. Results confirmed that trust in development at Time 1 simultaneously predicted maternal adjustment and child behavior problems at Time 2 while controlling for maternal adjustment, child temperament, maternal education, and family income at Time 2. Maternal education and adjustment at Time 1 also predicted maternal adjustment at Time 2 and child temperament at Time 1 was an additional predictor of child behavior problems at Time 2. Although all exogenous variables were allowed to covary only four correlations were significant. Family income correlated positively with maternal education and trust in development at Time 1 and negatively with child temperament at Time 1. In addition, child temperament and maternal adjustment at Time 1 were positively correlated. Finally,

[3] The same regression models were also conducted separately for the two components of the maternal adjustment variable: role satisfaction and competence. The regression of role satisfaction revealed a significant positive relation for organismic trust, beta = .19, t = 2.15, $p < .05$. The regression of competence revealed a marginally significant positive relation, beta = .16, t = 1.77, $p = .08$.

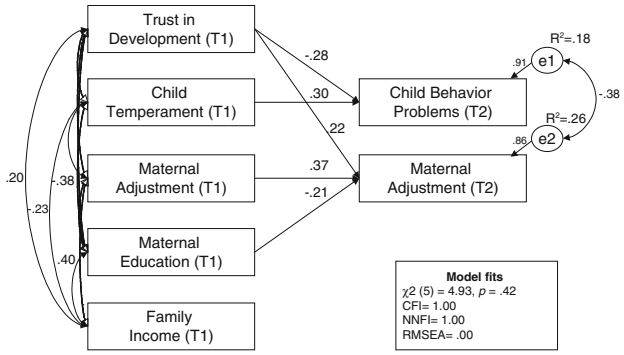

Fig. 1 Structural model of relations between trust in organismic development, child temperament, maternal adjustment, maternal education, family income and child behavior problems (Study 3)

maternal adjustment and child behavior problems residuals at Time 2 were negatively correlated, which means that these two variables share unexplained variance. All model fits were satisfactory (χ^2 (5, $n = 115$) = 4.93, $p = .42$; CFI = 1.00; NNFI = 1.00; RMSEA = .00), which indicates that the proposed model adequately fits our data. The chi-square test was not significant, the Comparative Fit Index (CFI) and the Non-Normed Fit Index (NNFI, also known as the Tucker-Lewis Index) were above the .90 criterion (Schumacker and Lomax 1996), and the Root Mean Square Error of Approximation (RMSEA) was below .05; (Browne and Cudeck 1993; Jöreskog and Sörbom 1993). Furthermore, when we entered trust in development at Time 2 as an additional predictor of maternal adjustment and child behavior problems results showed that mothers who increased in trust over the year also increased in level of adjustment and had children who experienced fewer behavioral problems.

Brief discussion

The purpose of Study 3 was to determine whether parental trust in organismic development would predict mother and child adaptation over time. As expected, parental trust at Time 1 predicted maternal adjustment at Time 2, controlling for initial levels of maternal adjustment and child temperament. Parental trust at Time 1 also predicted fewer behavior problems in the child at the follow-up, controlling for child's temperament at Time 1 (because a measure of behavior problems was not available for children under 18 months, child temperament is used as a control variable in this regression). Interestingly, there was also evidence that changes in levels of trust over the course of the study were associated with better maternal and child adaptation. These results suggest that the maternal trust in organismic development is significantly associated with mother and child adaptation over time.

Study 4

The final study explored possible social/political antecedents of trust in organismic development by comparing the beliefs of first time mothers from Canada and Norway. We hypothesized that a country such as Norway, which places great emphasis on child and parent welfare and provides considerable resources for young parents, would be particularly likely to foster a relaxed, trusting approach to parenting. French Canadian mothers from Study 1 were compared with a sample of first time mothers from Norway in their level of developmental trust and in their norms for child development. We expected that Norwegians would report higher trust and more relaxed norms than Canadians. All participants were also asked to report on the tangible support that society provided in terms of maternity leave, health care for children and mothers, available quality day care, and financial benefits. They were also asked to report on the extent to which they felt that their society provided satisfaction for their needs for autonomy, competence and relatedness. We expected that Norwegians would report greater tangible support and greater need satisfaction from their society than Canadians. Finally, we also asked mothers how much need satisfaction was provided by their partners. We did not expect Norwegian and Canadian mothers to differ on this variable, but used it to rule out the possibility that Norwegians may just endorse more positive items in surveys.

Methods

Participants

Thirty-six first-time mothers from Norway with children under the age of two were recruited for this study. Forty-three French Canadian mothers who participated in Study 1 were used as a comparison group in the present study. French Canadian mothers were selected for comparison because they represent a more homogenous group than English Canadians. Preliminary analyses revealed that the 36 Norwegian mothers did not differ from the 43 French Canadian mothers in educational level, marital status, age of baby, or gender of baby (all t-tests did not approach significance, p's $> .20$). Forty-eight percent of mothers were married to the baby's father; most of the mothers were university educated; the average age of children was 11.1 months; fifty-two percent of the children were girls. The one significant difference that did emerge was that the Norwegian sample reported higher yearly income than the French Canadian sample, t (76) = 4.97. Because the cost of living in Norway is substantially higher than in Canada, this reported difference probably over-estimates the true financial gap between Norwegian and Canadian families. Nonetheless, all of the

analyses comparing the Norwegian and Canadian mothers were repeated controlling for family income.

Procedure

Norwegian participants were recruited from the community through the use of flyers, and through social networking among new mothers in Norway. Interested mothers who met criteria for the study were sent a questionnaire by mail, along with the equivalent of $20.00 CAD, and were asked to return the questionnaire in the stamped and addressed envelope provided. The instruments included in the questionnaire were originally constructed and written in English, and translated into French and Norwegian by bilingual researchers. French Canadian participants for this study were a subsample of participants of Study 1, used as a comparison group. In addition to the measures included in Study 1, these mothers completed all the measures described below. Some of the measures used in this study (trust in organismic development, maternal normative expectations) were described in Study 1.

Measures

Trust in organismic development. The measure for trust in organismic development used in Study 1 was used in this study.

Maternal normative expectations. The measure for developmental norms used in Study 1 was used in this study.

Tangible support from society. A four-item scale was developed to measure mothers' perception of support provided by the government. Each item was preceded with "I feel satisfied with…" followed by the items "the financial benefits granted new mothers," "the amount of maternity/paternity leave given to parents," "the availability and quality of daycare," and "the availability and quality of health care provided to mothers and their newborns." Each item was rated on a 7-point scale with 1 representing "strongly disagree", and 7 representing "strongly agree". Higher scores on that scales indicated higher satisfaction with tangible support provided to new parents by society.

Need satisfaction from society. The Need Satisfaction Scale (La Guardia et al. 2000) was adapted to measure social support from community. Participants were asked to rate the extent to which their society met their needs for autonomy, competence, and relatedness on a 6-point scale ranging from 1 (not at all true) to 6 (very true). Each item was preceded by the phrase, "When I think about society's expectations for mothers." Sample items include "I feel free to be the kind of parent that I want to be"(autonomy), "I feel very alone in taking care of my baby" (relatedness, reversed), and "I feel very capable and effective as a parent" (competence).

Need satisfaction from partner. The Need Satisfaction Scale (La Guardia et al. 2000) was also adapted to measure social support from the partner. Each psychological need (autonomy, competence, and relatedness) was measured using three items with total need satisfaction assessed as the average of the 9 items. Participants were asked to rate the extent to which their partner met their needs on a 6-point scale ranging from 1 (not at all true) to 6 (very true). Each item was preceded by the phrase, "When I am with my partner". Sample items include "I feel free to be the kind of mother that I want to be" (autonomy), "I feel loved and cared about in my role as a mother" (relatedness), and "I feel very capable and effective as a mother" (competence).

Results and brief discussion

As hypothesized, t-tests showed that Norwegian mothers reported higher levels of trust in organismic development ($M = 5.01$) than Canadian mothers ($M = 3.85$), $t(76) = -6.15$, $p < .001$. Norwegians also reported more relaxed normative expectations ($M = 3.62$) than Canadians ($M = 3.12$), $t(76) = -5.84$, $p < .001$. Norwegian mothers also reported greater tangible support ($M = 4.73$) and greater need satisfaction from society ($M = 5.14$) than Canadian mothers (tangible support $M = 3.18$; need satisfaction from society $M = 4.57$), t's $(76) = -5.81$ and -3.76, p's $< .001$. Norwegian and Canadian mothers did not differ in their report of need satisfaction from their partner, $t(76) = -1.20$, ns. All of the above differences between Norwegians and Canadians are maintained when controlling for family income.

Table 4 presents the correlations among all of the variables across all participants. The number of participants for each correlation is indicated in parentheses. It can be

Table 4 Correlations among variables in Study 4

Variable	1	2	3	4	5
1. Trust in organismic development	1.0				
2. Maternal normative expectations	.27* (78)	1.0			
3. Tangible support from society	.34** (78)	.27* (79)	1.0		
4. Need satisfaction from society	.33** (78)	.27* (79)	.43** (79)	1.0	
5. Need satisfaction from partner	.26* (75)	.18 (76)	.18 (76)	.49** (76)	1.0

* $p < .05$, ** $p < .01$

seen that perceived tangible support and need satisfaction from society were significantly positively related to mothers' greater trust in organismic development. Need satisfaction from partner was also significantly positively related to greater trust. All of these correlations were similar among Norwegian and French Canadian mothers.

General discussion

The present investigation examined the relations of mother's trust in organismic development to mother's autonomy supportive versus controlling parenting behavior, mother's role adjustment, and children's behavior problems. Overall, the results supported our hypotheses that trust in organismic development would be associated with mothers' behaving in an autonomy supportive rather than controlling manner toward their child, and that it would be associated with better maternal and child adaptation over time.

Study 1 provided some construct validity for the measure of trust in organismic development. Specifically, it was shown that trust was associated with having relaxed expectations for developmental milestones and making fewer social comparisons about one's child. Interestingly, trust in organismic development was also shown to be significantly negatively related to adopting a permissive parenting style. Such a negative relation is consistent with the argument of self determination researchers that factors that promote autonomy should not be confused with a detached, laissez faire parenting style.

Study 2 showed that maternal trust in organismic development was associated with mothers' behaving in an autonomy supportive rather than controlling manner toward their child. This is the first time that the parents' beliefs about child development itself have been shown to have an impact on their level of autonomy-support versus control with their children. Indeed, these results suggest that parents who hold an organismic theory of their child's development are more likely to behave in a responsive and facilitating manner to their child's initiations compared to parents who do not trust in their child's organismic development.

In discussing autonomy support, it is important to emphasize the distinction from permissiveness and neglect. There is a clear consensus that children need rules, guidelines, and limits for optimal development (Grolnick 2003). Autonomy support is an active process that involves the facilitation of self-initiation in children, and the encouragement of their attempts to solve their own problems (Grolnick 2003). It is, therefore, entirely compatible with structure. In fact, structure has more positive effects on children when it is combined with autonomy support. (Koestner et al. 1984).

Study 3 showed that children of trusting mothers appeared to have fewer behaviour problems over time, even when controlling for the child's difficult temperament. The most likely explanation for this finding is that trust in organismic development helps parents to be less controlling and be more supportive of their children's autonomy. Indeed, viewing child development as a process that tends to unfold naturally might help parents to adopt a more relaxed attitude toward parenting, to welcome their children's initiatives, and encourage their autonomy. Several studies suggest that with time, toddlers become increasingly capable of regulating their emotions and impulses (Grolnick et al. 1996a; Vaughn et al. 1984). Thus, a gradual movement from reliance on mediation by others for modulation of one's emotions to reliance on one's inner resources can be observed. However, according to self determination theory, this gradual movement is not just a matter of time and maturation, but also an interpersonal process (Ryan et al. 2006). If the child lives in an autonomy-supportive context that affords access to and expression of emotions, the child will eventually become able to develop an autonomous, flexible, and adaptive regulatory style (Ryan et al. 2006).

It is important to note, however, that the present study did not explore the bi-directional influences between the mother and child. It is quite possible that children who are developing well and who possess good self-regulatory capacities may elicit more trusting beliefs from their parents. Although the present studies attempted to control for temperamental factors, it did not specifically control for individual differences in children's self-regulatory capacities. There is considerable evidence of bi-directional influences in child development and it seems likely that the causal pathways between child self-regulation and maternal beliefs and behaviors move in both directions (Grolnick 2003).

Another way in which trust in organismic development may promote positive child outcomes is that it may decrease the amount of stress experienced by parents, which may in turn promote the adoption of a parenting style that is beneficial for children and reduce behaviour problems over time. Research has confirmed that parents who experience high levels of stress tend to be more controlling, and provide lower levels of involvement and structure to their children (Grolnick et al. 1997, 1996b). The higher levels of involvement and structure that parents are capable of providing when their stress levels are lower may help to prevent behaviour problems in children.

Parents who trust organismic development may also be more attuned and open to their children's needs. This may facilitate the development of a mother–child mutually responsive orientation, which encompasses shared cooperation and shared positive affect (Kochanska 1997; Kochanska and Murray 2000). Research has shown that this orientation predicted children's willingness to accept

rules and norms of behaviour (Kochanska and Murray 2000). It is therefore possible that trust in organismic development indirectly contributes to reducing behaviour problems through the development of a mother–child mutually responsive orientation.

An important finding in our investigation was that parental trust in organismic development predicted maternal adjustment over time. Mothers who were initially higher in developmental trust reported greater feelings of competence and satisfaction in their maternal role at Time 2. Furthermore, the results of Study 3 also showed that mothers who increased in their level of trust over the course of a year displayed a corresponding increase in their adjustment. Because first-time mothers face dramatic life changes which induce considerable stress, it is very important to understand the factors that contribute to their general well-being and to their feelings of competence in their role as mothers. In that respect, trust in organismic development is an interesting concept, because its promotion could be used in preventive interventions with future and new parents, in order to facilitate their adaptation to parenting.

The fact that trust in organismic development is related to autonomy support could explain why mothers who have a high level of trust adjust better to their parental role (as shown in Study 3). Recent research has suggested that giving autonomy support has a positive effect on the psychological health and well-being of the giver, and that this effect is even stronger than the effect of receiving autonomy support from others (Deci et al. 2006). The authors suggest that this may be due to increased need satisfaction for the person who provides autonomy support. By being autonomy-supportive, this person would be likely to experience a sense of competence in having the other person receive this offering, a sense of relatedness with the other person (because relatedness involves caring for as well as feeling cared for), and a sense of autonomy because she is volitionally doing something that she values (Deci et al. 2006). Consequently, if trust in organismic development facilitates autonomy-supportive parenting for mothers, they could also benefit through the increased satisfaction of their needs for autonomy, competence, and relatedness.

The findings from Study 4 suggest that culture is an important source of variation in trust in organismic development. Although the two cultures chosen for this study—Norway and Canada—have many similarities, Norway is a country which places great emphasis on child and parent welfare and provides considerable social resources for young parents. As expected, Norwegian mothers reported higher levels of trust in organismic development and more relaxed developmental norms compared to Canadian mothers. Norwegian mothers also reported greater tangible support and greater need satisfaction from society than Canadian mothers.

An important limitation of our research is that maternal autonomy-support and adjustment were not measured within the same sample, so it is not possible to know whether the link between trust in organismic development and maternal and child adjustment is truly mediated by autonomy-support. Future research should address this important question. Another limitation is that our samples were highly educated and above-average in family income, so that the results may not be generalizable to all mothers. A final limitation is that our scale of trust in organismic development included only eight items and displayed only moderate levels of internal reliability. It will be important in future research to develop this scale further.

Future research on parental trust in organismic development should aim at having multiple informants, in order to strengthen the findings of the study presented here. For example, the child's father could be involved in future studies and provide his own input on trust in organismic development. Indeed, it would be interesting to see whether the relation between parental trust and parental adjustment found in first-time mothers can be extended to fathers, and to see whether mothers and fathers tend to have similar levels of trust in organismic development. Future research could also study parents with older children, in order to see whether the variables act in a similar way with this population. Future research might also address the possibility that factors other than culture, such as personality factors and life experiences, might play a role in determining an individual's level of trust. For example, if an individual has been in close contact with many children, this person's level of trust in organismic development might be high, as he or she has become familiar with the important variability among children, and sees that most children develop normally despite their differences. Parents who raise their children in the context of a large extended family may also be higher in trust because they can rely on the counsel of other experienced parents. These would be interesting research questions to be addressed in future studies on trust in organismic development.

Conclusion

Child development does not always unfold without problems. When children present with abnormal delays in reaching developmental milestones, parents are right to seek professional advice, as some delays reflect pathology requiring early treatment. Nonetheless, for most children, child development proceeds normally, without the need for specific interventions. The studies presented here demonstrated that parents who have a strong sense of trust in the organismic development of their child benefit from

multiple advantages; not only do they adjust better to their parental role, but they also have a tendency to adopt a more autonomy-supportive and less controlling parenting style, which has been associated with several positive outcomes in children. Indeed, children of trusting parents also seem to benefit as evidenced by the display of fewer behavior problems over time. This new concept of parental trust in organismic development could perhaps lead to the design of interventions that would facilitate parental and child adjustment and ease the difficult transition to parenthood.

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Appendix 1

Factor loadings for items on trust in organismic development scale

Item	Study 1	Study 2	Study 3
I believe that most parents don't have to intervene in any specific way in order for their child to develop normally	.60	.35	.59
I believe that parents should intervene as soon as they suspect that their child is developing a little slower than average (R)	.76	.84	.74
I believe that most children develop in a healthy way, at their own pace	.44	.35	.40
I believe that parents have to carefully supervise their child's development to make sure that it is progressing normally (R)	.76	.75	.80
I usually don't worry too much about my child's development	.61	.57	.57
I carefully supervise my child's development to make sure that it is normal (R)	.78	.82	.78
I think it's perfectly normal for my child to sometimes be slower than average when reaching a new stage in his/her development	.42	.37	.44
I often wonder if I am doing the right things in order for my child to grow up healthy (R)	.37	.52	.31

Note: (R) indicates that the item is reversed

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