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Addressing Childhood Suffering

Integrating Science and Practice: the Much-Awaited Sequel

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MISSION OF INTEGRATING SCIENCE AND PRACTICE

Integrating Science and Practice is published twice yearly by the *Ordre des psychologues du Québec*. The goal of the publication is to provide syntheses of scientific knowledge in the area of psychology and to facilitate the transfer of knowledge to the field of practice. The publication aims to give psychology practitioners, in all areas and fields of practice, the tools they need by providing them with critical reviews of the literature and brief syntheses of knowledge on specific themes. The journal is further intended to inform the public and professionals who work in collaboration with psychologists about recent scientific and clinical developments in psychology and about the contribution of psychologists towards improving people's quality of life.

The journal publishes articles by invitation only, following a call for proposals. Independent submissions are neither considered nor accepted. However, the editorial board may receive suggestions for themes. The choice of themes is made on the basis of their clinical relevance and their scientific, social and political relevance. Preference is given to articles that propose best practices in a specific field or context, or that question existing practices or policies based on available research findings. In every instance, the value of an article is assessed on the basis of its scientific merit and its potential for improving practices. All articles undergo anonymous peer review before being accepted and published.

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Integrating Science and Practice: the Much-Awaited Sequel

The first issue of *Integrating Science and Practice* was published in March 2010. The goal of that new publication was to create a bridge between researchers in psychology and clinical practitioners who want to be informed about the state of knowledge in their field and draw inspiration from it to improve their interventions with their clients (*Integrating Science and Practice*, 2010). After a first issue on the effectiveness of psychotherapeutic interventions, a second one appeared in September 2010 on treatment options for depression. At the time, it was a pilot project; its relevance and utility needed to be assessed before deciding if the new journal would be published on a regular basis by the Order.

In 2011, we focused our attention on surveying Order members to determine their level of satisfaction with *Science and Practice*. Early in the year, the Order retained the services of Jolicoeur *et Associés* to conduct a survey of 1500 members. In total, 752 psychologists responded, for a response rate of 50%. Of them, 63% were familiar with the journal and had read it. The results spoke for themselves: 95% of the respondents were of the opinion that the Order should continue publishing the journal. A similar percentage felt that publishing a journal such as *Integrating Science and Practice* was part of the Order's mandate and that the journal complemented the Order's sister publication *Psychologie Québec*. The survey results further underscored that the journal was particularly relevant in regards to theory and practice. The members who were surveyed considered the journal to be useful for guiding interventions with their clients and for interacting with their colleagues. Finally, the survey results highlighted the journal's educational value. Those results were echoed by the many comments we received from readers, both in Quebec and further afield, including representatives of the American Psychological Association and the Canadian Psychological Association.

In light of those findings, the board of directors of the Order decided at a meeting on June 17, 2011, to authorize continuation of the journal's publication. The second half of 2011 was then spent on defining the journal's mandate and editorial policies and taking the actions needed to ensure it is indexed in the major psychological literature search engines. The journal's mission and

editorial policies are outlined on page 2 of this issue and on the Order's website, where all issues can be downloaded in English and French:

www.ordrepsy.qc.ca/scienceandpractice.

The third issue: Childhood

In this third issue of *Integrating Science and Practice*, we turn our attention to children. It is estimated that 15% of children and adolescents suffer from mental disorders (Wadell & Shepherd, 2002), while some reported rates are closer to 20% and others even substantially higher, especially in lower income populations (Kieling et al., 2011). According to estimates dating back a few years (MSSS, 2005), this would represent more than 230,000 Quebec children and adolescents who are affected at any given time, mostly by anxiety disorder, behavioural disorder or attention deficit hyperactivity disorder (ADHD), or depressive disorder, to name but a few. More troubling is the fact that 38% of Canadian parents are ashamed to admit that their children suffer from anxiety or mood disorders (Kinark Child and Family Services, 2007) and a mere one in five children, or one in four at the very best, receives the services required by his or her condition (Leitch, 2007; Wadell et al., 2005).

More troubling is the fact that 38% of Canadian parents are ashamed to admit that their children suffer from anxiety or mood disorders (...) and a mere one in five children, or one in four at the very best, receives the services required by his or her condition (...).

While those few figures should be of concern to us all, the articles published in this issue of *Integrating Science and Practice* should provide us with food for thought and serve as a call to action. Knowing the effects and consequences of mental illness in children, adolescents and their families and friends, whether short, medium or even long-term (e.g., Felletti et al., 1998; WHO, 2003), as well as the consequences of abuse and neglect (e.g., Bowlus et al., 2003), we can only conclude that intervention is vital, not only among young people and their families, but at a societal level as well. First, it is important in order to prevent problems from

appearing or becoming chronic—which is of particular importance because close to 70% of mental disorders appear during childhood or adolescence (MHCC, 2009). Second, it is important in order to comfort and heal; close to three-quarters of the cases of childhood mental disorders could be treated successfully through early diagnosis and intervention (Leitch, 2007). To that end, Quebec has 2660 psychologists who provide services for children and 3710 who do so for adolescents. What's needed now is to make sure they have the resources to do their job.



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Evidence for the Efficacy of Attachment-Based Interventions for Maltreating Parents and Their Children

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Maltreatment¹ is a persistent and pervasive social problem with devastating long-term effects on children's social, emotional, and cognitive development. Maltreating families constitute one of the highest-risk populations, often showing extreme levels of poverty, social isolation, stressful life events, and parental and child psychiatric symptomatology (Trocmé et al., 2005). Despite the documented negative effects linked to maltreatment, and the enormous human, social and health-related costs associated with this problem, there are relatively few well-designed and evaluated programs that target maltreating parents (Cicchetti & Valentino, 2006). Following the documented failure of programs offering didactic instruction to maltreating parents (Daro, 1988), efforts have focused on developing home visitation programs offering social support and interactive coaching. However, in general, these programs have not included an intensive theoretically-based model for changing the early dysfunctional interactive patterns that lead to the compromised developmental attainments that accompany maltreatment. Most importantly, few intervention programs in the field of maltreatment have been tested using randomized control designs and targeting children under school age (Schonkoff & Philips, 2000). In addition, many studies rely exclusively on outcome measures assessing parental change in attitudes or stress levels or institutional measures of out of home placement time or type. These outcome measures do not provide evidence of the quality of the caregiver-child relationship or of child functioning.

Attachment theory provides a solid foundation for both understanding the risk and resiliency factors involved in the development of maltreated children, and guiding the development and evaluation of intervention programs for this multiple-risk population. This review describes treatment programs that have been influenced by attachment theory.

Attachment

According to attachment theory, infants' experiences linked to using the parent or other attachment figures for comfort and protection in times of distress form the basis for the development of internal working models. A child who has experienced a secure relationship is expected to develop a capacity for self-regulation, and an internal model of himself as being competent and of others as being dependable (Bretherton, 1985). Insecure attachment has been shown to increase the risk for psychopathology (De Klyen & Greenberg, 2008). One type of child attachment insecurity,

¹ Child maltreatment, sometimes referred to as child abuse and neglect, includes all forms of physical and emotional ill-treatment, sexual abuse, neglect, and exploitation that results in actual or potential harm to the child's health, development or dignity.

disorganization, has been consistently shown to be quite stable in the absence of intervention and to be a significant risk factor for psychopathology (Lyons-Ruth & Jacobvitz, 2008; Moss et al., 2005). It is also highly prevalent among maltreated children, with some 32 to 86% classified in this category (Van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999).

A central tenet of attachment theory is that the quality of the attachment relationship is dependent on the sensitivity of the caregiver's responsiveness to the needs of the offspring (Ainsworth, Blehar, Waters, & Wall, 1978). Sensitive caregivers both accurately perceive children's emotional signals that govern their proximity-seeking behavior, and respond in an appropriate and contingent manner. Parental insensitivity, frightened/frightening behavior, and atypical caregiving have been linked to the development of disorganized attachment in infants and preschoolers (Schuengel, Bakermans-Kranenburg, & Van IJzendoorn, 1999). Studies have shown that early parental sensitivity to child needs and signals, and the parent's capacity to respond to them appropriately, is a key mechanism in shaping brain development and the substrate of mental processes involved in different aspects of cognitive functioning related to emotion regulation and communication (see Schore, 2001 for a review). Longitudinal studies have demonstrated that both sensitive caregiving behavior and secure attachment relationships are associated with significantly lower risk for development of psychopathology and school underachievement (Moss & St-Laurent, 2001).

Intervention programs

Evidence for the role of maternal sensitivity in the development of secure attachment has been provided by a number of prevention and intervention trials, conducted with clinical and nonclinical samples aimed at improving the quality of early parent-child interaction and child attachment. These programs have generally involved mother-infant dyads in shorter (5-16 weeks) or longer-term (20 weeks to a year) programs generally involving weekly visits in the home setting. In the shorter-term model, clinicians focus primarily on modifying caregiver's interactive behavior with the child towards greater sensitivity, often by providing video-feedback, whereas more long-term approaches include psychotherapy and social support, with a focus on mothers' reinterpretation of their own childhood experiences in relation to their current caregiving.

Several studies (Cicchetti, Rogosch, & Toth, 2006; Lieberman, Van Horn, & Gosh Ippen, 2005; Lieberman, Gosh Ippen, & Van Horn, 2006; Toth, Manguan, Manly, Spagnola, & Cichetti, 2002) have tested the efficacy of long-term ($M=46$ weeks) attachment-based preventive intervention with mother-child dyads from maltreating families. The intervention models in all these studies use the child-parent relationship as the primary vehicle for improving child outcomes with an additional representational component aimed at using maternal and child psychotherapy to change internalized representations of self and other associated with attachment experiences. Results of the Cicchetti et al. 2006 study, notable for its use of random assignment and outcome measures of the quality of the caregiver-child relationship and of child

functioning, showed a substantial reduction in infant disorganized attachment and increase in secure attachment for the intervention group. Toth et al. (2002) and Lieberman et al. (2005, 2006) used randomized designs with preschool-aged samples. Toth et al. found substantial decreases in maltreated children's negative representations of self and mother, as well as increases in their positive mother-child relationship expectations. Results of the Lieberman et al. (2005) study showed improvements in children's behavior problems, traumatic stress symptoms, and diagnostic status as well as mothers' avoidance and distress symptoms at posttest. A 6-month follow-up revealed durability of improvement in child behavior problems and maternal distress (both mother-reported).

Olds and colleagues, in numerous randomized trials (1997, 1998, 2007), have tested a long-term home-visiting intervention strategy targeting multiple outcomes for mothers and children. More recent trials have integrated attachment theory in emphasizing both the promotion of sensitive and responsive caregiving in parent-child interactions, discussion concerning mothers' own childrearing history and development of an empathic helping relationship. Results have shown improvements in maternal sensitivity and responsiveness and in infant responsiveness and mental development. However, given the diversity of services embedded in the home visiting program, it is not clear what component of the program is responsible for different effects. In addition, it is not clear that child attachment security or disorganization was influenced, as these constructs were not measured.

These studies also confirm that standard intervention approaches still used in the majority of youth protection services in the province of Quebec (...) are insufficient to prevent maltreated children from embarking on a negative developmental trajectory.

An important meta-analysis of attachment-based intervention aimed at promoting secure attachment showed that short-term programs oriented directly at increasing the predictability, consistency, and warmth of parental behavior towards the child, were more effective than the longer-term, representational approaches (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003). A subsequent meta-analysis (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2005) suggested that brief, sensitivity-based intervention programs are also more effective in changing disorganized attachment. Using a randomized control design, Van Zeijl et al. (2006) found that a short-term 6-session program, which included both sensitivity and discipline training, was effective in improving maternal attitudes toward sensitivity, in promoting sensitive discipline interactions, and reducing child overactive problem behavior, but did not change maternal sensitivity or child aggressive and oppositional behavior. Only one randomized control trial to date has tested the efficacy of short-term attachment-based intervention for primary caregivers reported for maltreatment and their children (1-5 years) (Moss et al., 2011). The intervention group received 8 weekly home visits directed at the caregiver-child dyad and focused on improving caregiver

sensitivity. Intervention sessions included brief discussions of attachment and emotion regulation-related themes and video feedback of parent-child interaction. Comparison of pre- and posttest scores revealed significant improvements for the intervention group in parental sensitivity and child attachment security, and a reduction in child disorganization and in internalizing and externalizing problems.

Conclusions

Studies have shown the efficacy of attachment-based interventions in improving parental sensitivity, child security and reducing child behavior problems. A number of new studies (Moss et al., 2011; Van Zeil et al, 2006) also support the “less is more” idea of Bakermans-Kranenburg et al. (2003) indicating that short-term, well-timed programs oriented directly at increasing the predictability, coherence, and warmth of parental behavior towards the child can be highly effective even with extremely high-risk populations. It will be important in future research to conduct randomized control trials to compare longer and shorter-term sensitivity-focused interventions with maltreating samples in order to examine the issue of dosage.

These studies also confirm that standard intervention approaches still used in the majority of youth protection services in the province of Quebec (for example the control group in our study) are insufficient to prevent maltreated children from embarking on a negative developmental trajectory. Interventions commonly practiced with this population focus resources on treatment of the parent or the child independently, without including intensive intervention focused on the parent-child dyad. Although parents’ own dysfunctional attachment models are an important influence on children’s development of attachment strategies and behavior problems, treatment of the parent in isolation has not proven to be effective for child outcomes (Moss et al., 2007). On the other hand, treating only child socio-emotional problems does not respect the idea in attachment theory that such behavior is often an adaptation to parental insensitivity to child attachment signals. A primary focus on the parent-child dyad maximizes the chance that the child’s developmental timeline will be respected and that therapeutic gains will be maintained. In this respect, the attachment-based models discussed in this paper may be effective intervention tools for maltreated and other children with attachment disturbances (e.g., foster or adopted children) and their parents.

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MOVING FROM DEFICIT TO STRENGTH IN ADHD

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A diagnosis of Attention-Deficit/Hyperactivity Disorder (ADHD) often carries a negative connotation. Typically, the focus is placed on the adverse behaviours that are presented by affected children; they often demonstrate difficulties with sitting still, completing assignments, and getting along with peers (American Psychiatric Association, 2000; Barkley, 1997). Consequently, much of the research and practical focus on these children highlight these areas of deficiency.

However, this deficit-focused perspective is not always justified, as many children with ADHD are successful in the classroom, with peers, and in their communities (Spencer, Biederman, & Mick, 2007). Many children with ADHD possess positive attributes that may be beneficial in the classroom or home environments (Climie, Mastoras, McCrimmon, & Schwean, in press; Mikami & Hinshaw, 2003, 2006). Children with ADHD who are intelligent, have more positive peer relationships (Mikami & Hinshaw, 2006), and have healthy relationships with parents (Chronis et al., 2007) have much more positive outcomes than the typical ADHD child (Modesto-Lowe, Yelunina, & Hanjan, 2011). Indeed, success with peers and within family environments appears to allow children with ADHD a better opportunity to be successful and highlights the importance of supporting and enhancing these relationships.

However, researchers rarely consider these influential factors and instead continue to look for ways in which these children are negatively impacted. So the

question remains: given that research within a number of other clinical populations (e.g., autism spectrum disorders) has begun to emphasize abilities rather than disabilities (e.g., Montgomery et al., 2008), why do children with ADHD continue to be viewed in a negative light?

Working from a strengths-based perspective allows researchers, clinicians, and teachers to better understand the positives in these children and allows them to work collaboratively towards success. It is important to better understand the abilities and unique learning needs of these children and work towards using these strengths to support individual areas of weakness so that these children are able to be successful at home and at school.

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Parenting and Fear and Anxiety in Young Children

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Fears and anxieties are a normal part of life for people of all ages including children. Typically developing children have a surprising number of fears that emerge at various stages throughout development (e.g., Gullone, 1999). While fears of imaginary creatures such as ghosts and monsters are prevalent in early childhood, fears become more realistic (e.g., bodily harm, physical danger) or socially focused with age. Fears in normally developing children, for example, are prevalent in preschoolers (71%) and typically peak at ages 7 to 9 years of age (87%), and then decline from 10 to 12 years of age (68%) (Muis, Merkelbach, Gadet, & Moulaert, 2000). Worries and scary dreams are also extremely common in children between ages 4 and 12, occurring in 67% and 80% of children, respectively (Muis et al., 2000). Girls have been repeatedly shown to have higher intensity fears, worries, and ritualistic behaviours than boys across age groups. This developmental variation in the content and intensity of worries, fears, and rituals likely reflects differences in the types of situations and expectations that children face as they develop. Typically developing children learn to master these fears as they mature cognitively and emotionally.

However, that is not always the case. For example, by the second half of the first year, infants learn to differentiate familiar from unfamiliar faces and this cognitive advance is often marked by fear and distress when encountering strangers (Thompson & Limber, 1990). While often temporarily intense, this fear usually resolves by the end of the first year. For children with more marked social anxiety, this fear persists well beyond this age and interferes with the child's normal routine and social functioning. Similarly, separation anxiety is a normal part of development in the first two years. It is also common for young children to be afraid when first entering new situations or activities. Their fears tend to diminish, however, as they become familiar with the new setting and activity. For children with separation anxiety disorder, fearfulness tends to increase rather than decrease with repeated separations from caregivers (Silove & Manicavasagar, 2001) and they experience significant distress even when anticipating separation. Decades of research have highlighted different factors that may explain how clinically significant fears, worries, and anxiety develop and are maintained.

WHAT CAUSES AND MAINTAINS CLINICALLY SIGNIFICANT ANXIETY

Family and twin studies suggest that about one-third of the variability in the levels of fear and anxiety that children experience is genetically influenced (e.g., Albano et al., 2003; Eley & Gregory, 2004). Most studies of genetic influences suggest that a general predisposition toward anxious reactivity rather than associations with specific anxiety disorders is involved (Albano et al., 2003). This is particularly apparent among young children and preschoolers where there is a high degree of covariation between subtypes of anxiety (Spence, Rapee, McDonald & Ingram, 2001). One likely candidate for the mechanism underlying this vulnerability is heritability of behavioural inhibition to the unfamiliar (BI), a temperamental style known to be a predisposing factor for developing clinical levels of anxiety (Hirshfeld-Becker, Biederman, & Rosenbaum, 2004). BI represents the tendency to become overexcited and to withdraw in response to novel events including unfamiliar people, situations, and objects. This relatively enduring trait observed in infants is expressed as a tendency to be anxious and fearful in toddlers, and shy or withdrawn in novel or unfamiliar situations

in young children (Kagan, 1997). BI is a normal variant of temperament occurring in about 15% of children in Europe and North America. While BI children are, as a group, at great risk for developing clinical levels of anxiety, especially social anxiety, only about one-third of these children do so (Kagan, 1997). Thus, other factors including familial and other environments, clearly play a role (see also Brooker et al, 2011).

THE PARENT-CHILD RELATIONSHIP AND THE DEVELOPMENT OF EMOTION REGULATION AND SOCIAL UNDERSTANDING

Some longitudinal evidence suggests that BI is likely to predict clinical anxiety only in the context of problematic parenting styles (Rubin, Burgess, & Hastings, 2002). The relative influence of children's temperament and parental responses is somewhat difficult to disentangle as each influences the other throughout development (Degnan, Almas, & Fox, 2010). Parents and children have complex relationship histories and do not act only in isolation; they react to and elicit each other's behaviours in various ways (Rapee & Spence, 2004). Anxiety in both parents and children is related to parenting

behaviours that appear to exacerbate anxiety in children (Murray, Creswell, & Cooper, 2009). With the complexity of the familial situation in mind, the ways in which the family relationships of anxious children differ is explored with reference to attachment, emotion regulation, and social understanding.

Attachment and exploration

Attachment refers to a biologically based system that drives children to seek out their caregivers for support and protection when they feel threatened. Overall, insecurity in the attachment relationship predicts higher levels of anxiety in children (Shamir-Essakow, Ungerer, & Rapee, 2005), with insecure ambivalent attachment being most typical (Colonnesi et al., 2011). Ambivalently attached children also express their emotions more intensely and struggle with emotion regulation (Bar-Haim, Dan, Eshel, & Sagi-Schwartz, 2007). Children who are behaviourally inhibited, insecurely attached, and have mothers who are anxious, exhibit the highest levels of anxiety (Shamir-Essakow, Ungerer, & Rapee, 2005). These factors may influence each other in a variety of ways. BI children have a lower threshold at which a physiological stress response is triggered and their distressed reactions appear to be more intense (Kagan & Snidman, 1991). These characteristics make it more challenging for parents to provide consistent, contingent emotional responsiveness (Nichols, Gergely, & Fonagy, 2001). Parents who are struggling to regulate their own anxiety may be particularly susceptible to feeling overwhelmed by their child's distress and need for soothing (Rubin et al., 2002). Further, anxious parents tend to show less warmth towards their children which may influence the extent to which the child feels reassured when they are

Unhelpful parental responses do not appear to be skill deficits in parenting per se, but are somehow related to the attachment history or context. Mothers of anxious children have been shown to have a high number of aversive parental behaviours and affect with their own children, but they are able to behave positively with other anxious.

interacting with their parents (DiBartolo & Helt, 2007). Taken together, these factors may result in a variable pattern of responsiveness associated with ambivalent attachment in which parents vacillate between attempting to sooth and understand their child and becoming overwhelmed and/or need to withdraw for a break.

Parental inconsistent responsiveness further hinders the infant's ability to develop self-regulation and the felt security needed to take risks exploring their environment and engaging in social interactions (Nichols et al., 2001). Unfortunately, parents of anxious children are likely to reinforce their child's reticence to freely engage with their surroundings, particularly if the parents are anxious themselves. For instance, both parental anxiety and children's anxiety are related to higher levels of parental controlling behaviours (Edison et al., 2011). Greater parental control has been shown to contribute to anxious children withdrawing from stressful tasks in the short term (Harvison, Chapman, Ballash, & Woodruff-Borden, 2008) and predict a pattern of increasing anxiety across childhood (Feng, Shaw, & Silk, 2008). Restricting children's autonomy has a particularly strong impact on childhood anxiety (McLeod, Wood, & Weisz, 2007), possibly because it prevents children from engaging in activities that could lead to social growth and a sense of mastery (Rubin & Mills, 1991). These unhelpful parental responses do not appear to be skill deficits in parenting per se, but are somehow related to the attachment history or context. Mothers of anxious children have been shown to have a high number of aversive parental behaviours and affect with their own children, but they are able to behave positively with other anxious children (Dumas &

LaFreniere, 1993). Thus, parents' anxieties or frustrations are most strongly triggered with their own children leading to more negative behaviours.

Mentalization and emotion regulation

Primary attachments also provide the interpersonal context within which children learn about their emotions and mental states and begin to regulate their fear and anxiety (Fonagy, Steele, Steele, & Moran, 1991). When parents understand their child's internal states and reflect their emotions back to them in contingent and empathic ways, this helps the child to become more aware of, label and understand their own mental states (Fonagy & Target, 1997). The children also experience positive emotion if they see in their parents' responses that they have an impact on them, which also increases the child's sense of control (Gergely & Watson, 1996).

Parents of anxious children may also have deficits in their sensitivity and responsiveness to their child's emotions. Studies examining parent-child interactions have shown, for example, that during discussion of emotional events, parents of anxious children spoke less in general, engaged in less exploration of the causes and consequences of emotion, were less likely to refer to positive emotions, and discouraged their children's discussion of their emotions more than parents with non-anxious children (Suveg, Zeman, Flannery-Schroeder, & Cassano, 2005; Suveg, Sood, Hudson, & Kendall, 2008). When parents did respond to their anxious child's negative emotions, they were more likely to use unsupportive responses (e.g. criticism, talking over the child, disagreeing, becoming upset, ignoring) (Hudson, Comer, & Kendall, 2008). Thus, parents of anxious children may not

fully utilize opportunities to discuss and help their children better understand and regulate their reactive internal states. The child's difficulty in obtaining appropriate scaffolding and responsiveness from their parents may lead to feelings of helplessness or lack of control which can further contribute to their anxiety (Chorpita, Brown, & Barlow, 1998).

Self-reflection and social understanding

Early on, children show evidence that they are affected by their parents' mental states, but cannot necessarily reflect on them (Fonagy et al., 1991). Around the third year, children begin to talk about feelings and show awareness that others may have different feelings than their own (Bretherton, NcNew, & Beeghley-Smith, 1987) and this capacity develops and becomes increasingly complex throughout childhood (Flavell, Flavell, & Green, 1983). The quality of the responses that the child receives from caregivers, and the security of their attachments, will influence the child's capacity to self-reflect and acquire increasingly complex social understanding (Humfress, O'Connor, Slaughter, Target, & Fonagy, 2002). The parent's capacity to provide appropriate responses to the child depends on their own ability to make sense of mental states and this ability relates back to their own attachment history and the quality of their responses to them by caregivers (Fonagy et al., 1991).

In general, parents of anxious children are less contingently responsive to their children's internal states and provide them with less helpful feedback (Hudson et al., 2008). If the parent is anxious, then their understanding of others' mental states may be biased by their anxiety and they may subtly convey messages to their child that make the social world

appear more threatening. Young children are attentive to, and impacted by, their parents' responses well before they have the capacity to reflect on them. Anxious parents model anxious behaviour or express anxiety related thoughts such as catastrophizing, which their children are likely to pick up on (Murray et al., 2009). This speaks to the importance of providing anxious parents and/or parents of anxious children with guidance in modeling alternate behaviours and attributions to reduce the perception of danger in the social environment.

CONCLUSIONS

Assessing young children with clinically significant anxiety should be anchored in an understanding of anxiety phenomena within typical childhood including the role of temperament, parent-child relationships, and the development of social understanding and emotion regulation. Assessments thus need to include an opportunity for parent-child interaction and include an appraisal of parental sensitivity and attachment. Parental anxiety and child temperament also needs to be measured. Clinicians also need to keep in mind that, except for simple fears, verbal self-reports of anxiety have been shown to be less reliable in young versus older children and adolescents (Ebesutani, Bernstein, Martinez, Chorpita, & Weisz, 2011). New assessment measures utilizing pictorial or animated characters (e.g., the MAAC by Manassis et al., 2009) provide promising alternatives for assessing young, anxious children.

In terms of policy recommendations, public information campaigns about risks associated with anxiety in young children and the importance of parent and other caregiver behaviours that can reduce these risks is essential. Health

care and early educational and recreational settings provide ideal contact points for information on signs of anxiety in young children and techniques to help children learn appropriate coping strategies and anxiety regulation skills. Expanded training of health, educational, and childcare professionals is important to prepare them to help young anxious children and their families. Parenting programs should also stress the importance of parent-child relationships in helping children learn to regulate their emotions and

cope with stressful situations. Parents should be provided with evidence-based information through referrals to high quality websites (e.g., Anxiety Canada, www.anxietycanada.ca or Anxiety B.C., www.anxietybc.com) and printed material to learn how to effectively support their anxious children. Finally, further support for research into parenting programs and interventions for young children at risk for anxiety disorders is essential to improving outcomes in these vulnerable youngsters.

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IS THE INCREASED PREVALENCE OF PERVERSIVE DEVELOPMENT DISORDER RELATED EXCLUSIVELY TO BETTER DIAGNOSIS?

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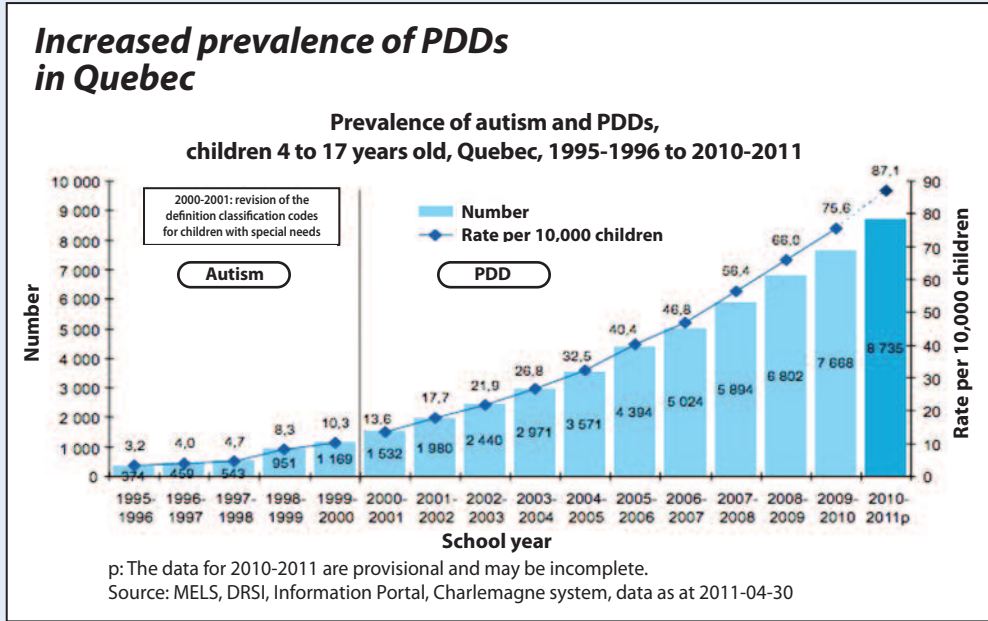
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The number of children diagnosed with a pervasive developmental disorder (PDD) has grown substantially in all industrialized countries. In Quebec, the prevalence of PDD has doubled every four years since 2000. One child in 106 now is diagnosed with PDD in the Montérégie region, representing a close to 700% increase in 10 years (Noiseux, 2011).

A number of hypotheses may explain the increase. The first, *diagnostic substitution*, suggests that children who might have once before been given a different diagnosis are diagnosed today with PDD (King and Berman, 2009). A review of recent data on PDD and other neurodevelopmental problems suggests that substitution is not at play in the explosive growth in PDD prevalence in Quebec (Noiseux, 2009). The second, *diagnostic omission*, proposes that children who might have once before been given no diagnosis are diagnosed today with PDD. That would imply a considerable number of adults with PDD who were never diagnosed—a fact that has not been demonstrated empirically. The third hypothesis is a broadening of the diagnostic criteria. That hypothesis would imply that the observed increase stems mostly from the addition of children

with mild severity, which does not seem to be the case, as the increase is reported across all IQ levels (CDC, 2009). The final hypothesis relates to a true increase in the disorder. The reasons for this increase are difficult to explain, however, since the etiology of PDD, which has both genetic and environmental components, is still relatively unknown (Landrigan, 2010; Spence, 2001).

Although diagnostic substitution, diagnostic omission and broader criteria may partly explain the increase in PDD diagnoses, the hypothesis of a true increase cannot be ruled out in the light of current data. Psychologists, health professionals and education professionals therefore need to be attentive to the increased prevalence of this disorder in children so that families can be referred to adapted services.



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Psychotropic Drug Use Among Children and Adolescents

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From country to country, prescribing rates for psychotropic medications among children and adolescents in the general population range from 0.5% to 4% (Bailly, 2007). More specifically, psychostimulant drugs (e.g., methylphenidate [Ritalin]) are prescribed to 2.9% of young North Americans, as opposed to between 0.4% and 1% of young Europeans. For atypical antipsychotics (e.g., risperidone [Risperdal]), the rates are 3.8% in North America and 0.2% in Europe. For all types of drugs, the prevalence in America exceeds that recorded in Europe (Desjardins, Lafortune and Cyr, 2010). Most epidemiological investigations further reveal substantial regional variations, a significant finding for those interested in the social determinants of health. For example, the use of methyl-phenidate fluctuates significantly across regions, whether in Quebec, Ontario or Manitoba (Lafortune and Collin, 2006). Why?

In North America, the initial indication for psychopharmacotherapy in young people is a diagnosis of disruptive behaviour disorder (Martin, Van Hoof, Stubbe, Sherwin and Scahill, 2003). Pathak et al. (2004) reported that the global level of functioning among children in receipt of drugs is often considered poor at the time of diagnosis, suggesting a deterioration of activities in family, social and academic settings.

Medicated youth are more often boys (70%) and are on average older than those who are not medicated. In the normal population, psychostimulants and antidepressants are the most commonly prescribed drugs. That said, psychotropic drugs are used four or five times more often by young people under public protection and in group homes and rehabilitation centres, where the medication rates range from 13% to 77%, for an average of approximately 20% (Brelan-Noble et al., 2004). For example, 37% of young people between 6 and 18 years of age who reside in rehabilitation centres, group homes and intermediate resources of youth centres in Quebec were taking a psychotropic drug in 2006 (Comité de travail sur la santé mentale des jeunes suivis par les centres jeunesse, 2007). Psychostimulants were by far the most frequently prescribed medications (26% of prescriptions), followed by antipsychotics (16%), often given to reduce aggressive behaviour, and antidepressants (5%). Of all young people in receipt of psychotropic medications, 44% had multiple prescriptions, with the most frequent combination being a stimulant of the central nervous system in conjunction with an antipsychotic. In that Quebec-based study, marked regional differences were observed once again.

New trends

From an epidemiological standpoint, three new trends have been identified in the past 10 years. First, the youth to whom medications are being prescribed are becoming increasingly younger. Zito et al. (2000) were among the first to speak of a “dramatic” increase (p. 1069) in the number of prescriptions issued to preschoolers. Second, prescriptions are increasingly being substantiated by the mere presence of symptoms, with epidemiologists having observed a relative absence of correlation between the formulation of an Axis I or II diagnosis and the prescription of medications. According to Connor (2002), the conventional primary illness approach has been supplemented by a target symptom approach. Prescribing physicians are shifting from a syndrome-based rationale to a more symptomatology-based and dimensional rationale. According to Green (2007), that paradigm now accounts for a substantial number of prescriptions among children and adolescents (e.g., for aggression, hyperactivity or sleep disturbances). Such a finding is not foreign to the development of neurobiology, which does not take the DSM-IV as a model, and proposes dimensional hypotheses instead to explain normal and abnormal functioning. One has only to think of the dopamine model of attention deficit or schizophrenia (Seeman, 1995) and the serotonin model of violence (Siever, 2008) or major depression (Maes and Meltzer, 1995). Under that logic, it is postulated that the medication causes specific variations in the available neurotransmitters, thereby acting on the expression of symptoms.

Third, polypharmacy or the combination of different psychotropic medications is an emerging trend, even

among general practitioners (Mojtabai, 2010). In knowledgeable reviews and practice guidelines, that strategy is usually substantiated by the notion of comorbidity. According to Duffy et al. (2005), the need to utilize combinations of drugs arises from an oft times unsatisfactory response to single prescriptions, especially when the patient’s condition is chronic or complex, or involves a psychiatric comorbidity. A polymedicated patient is then seen as polysyndromic or polysymptomatic.

Rational use of medications

In public health, the dominant paradigm for studying a medication states that practices should tend towards a *rational* use. For example, according to the World Health Organization (www.who.int), patients should receive products adapted to their clinical condition, in doses corresponding to their individual needs. The focus is on the quality of the prescription (e.g., indications, dosage, duration and adverse reactions) and the distribution of medications (e.g., prescription refills, information given to the patient and use of pill dispensers to mitigate the risk of error).

Evidence as to the efficacy of various agents is therefore key. Many physicians keep up-to-date by reading reports published by the pharmaceutical industry, even though their scientific neutrality is often questionable. A series of recent studies (e.g., Als-Nielsen, Chen, Gluud and Kjaergard, 2003; Bekelman, Yan Li and Gross, 2003) has shown that drug efficacy research funded by the industry is three to five times more likely to conclude in an agent’s efficacy than research conducted by independent teams. For example, Schur et al. (2003) conducted a repeat analysis of the conclusions of several clinical tests to ascertain the efficacy

of risperidone and quetiapine [Seroquel] among aggressive youth. They reported that the side effects were considerably more severe than as reported in research conducted by the industry. In addition to worrisome increases in body weight, the authors reported that the incidence of extrapyramidal effects could not be overlooked, and that the use of risperidone may be associated with increased prolactin levels and may result in priapism. Their clinical recommendations relegate the prescription of neuroleptics to second line in the treatment of aggressive behaviour, and psychosocial treatment is preferred. In other words, if medication is necessary to diminish aggressive behaviour, then it should be prescribed in conjunction with psychosocial intervention, such as organization of a therapeutic environment or social skills training.

Pappadopulos et al. (2006) looked at 42 randomized, placebo-controlled clinical trials that addressed the impact of pharmacotherapy on aggression in young people. In all, the effect size was calculated as 0.72, which ranks in the high medium category. Largest effects were obtained with methylphenidate in the treatment of aggression among young people with attention deficit (mean effect size: 0.9; $n = 844$) and risperidone among subjects with conduct disorder and intellectual disability (mean effect size: 0.9; $n = 875$). In both cases, the effect was deemed substantial. That said, most of the studies were of short duration (7 to 10 days) and focused on relatively young children ($\bar{x} = 10.4$ years). The authors concluded that future studies should distinguish between impulsive and predatory aggression, and examine the efficacy of agents over longer periods.

Rational use to optimal use of medications

Although professional associations make their own efforts to support clinical decision-making by publishing guidelines, many studies show that clinical practitioners do not necessarily refer day-to-day to evidence or practice guidelines (e.g., Essock et al., 2009). The guidelines issued by professional associations may suggest appropriate prescribing practices, but they are not mandatory. Thus, for ADHD, the parameters issued by the AACAP (2007) recommend that the initial assessment include: an interview with the child and parents, observation scales, an intellectual or neuropsychological assessment, and a physical examination. In actual practice, however, many barriers may prevent psychiatrists from following such guidelines before prescribing (Pappadopulos, Siennick and Jensen, 2003). The use of psychotropic medications is therefore not just rational.

The hypothesis must thus be made that treatment deemed somewhat inadequate by practice guidelines or evidence may be supported by other rationales, such as a request by parents, pressure from the school, a lack of psychosocial services or the high cost of certain specialized treatments. The representations made by physicians and their patients concerning the act of prescribing and the medication itself are also invaluable tools for understanding. Indeed, few human experiences have a symbolic

A series of recent studies has shown that drug efficacy research funded by the industry is three to five times more likely to conclude in an agent's efficacy than research conducted by independent teams.

power as irrefutable as the acts of prescribing and ingesting medications. The significance associated with those acts far exceeds the substances' pharmaceutical properties and is seen, for example, in the placebo effect (e.g., Brody and Weismantel, 2001). For that reason, the *actual* use of psychotropic agents may conceivably be better explained by a framework of systemic analysis than rational logic.

For a number of years, another paradigm has emerged for studying the use of medications, stating that practices tend towards an *optimal* use (i.e., the best possible, given the context). Thus, according to Laurier (2004), the medication should be evaluated in light of the variety of treatments considered effective, the costs and the available resources (e.g., staff, budget, training), in addition to patient values and behaviours (e.g., compliance). By way of its *Drug Policy*, the Quebec Ministry of Health and Social Services (2007) has adopted that new

paradigm. It follows that, in Quebec, the optimal use of medications no longer involves the prescribing physician alone. On the contrary, it should be supported by a number of professional associations, drug manufacturers and insurance companies, as well as by a majority of stakeholders in the health and social services network.

Evidently, the optimal utilization paradigm implies a certain trade-off between different dimensions—the benefits and risks for young people's mental health, and the cost and efficacy associated with the use of psychotropic medications (Laurier, 2004). It follows that the issue also concerns psychologists, since the quality of use of psychotropic medications can be estimated only by comparison against other available options, including psychotherapy. That judgment on the quality of practices must also bear in mind what young people and their families, as a group, consider to be important therapeutic objectives. Finally, it must consider socially recognized values such as equity, parsimony and an approach supported by empirical research.

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Prevalence and Prevention of Child and Adolescent Sexual Assault

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“Sexual assault is an act that is sexual in nature, with or without physical contact, committed by an individual without the consent of the victim, or in some cases, through emotional manipulation or blackmail, especially when children are involved. It is an act that subjects another person to the perpetrator’s desires through an abuse of power and/or the use of force or coercion, accompanied by implicit or explicit threats. Sexual assault is an attack on a person’s basic rights, particularly their rights to physical and psychological integrity and to personal security.”¹

The sexual assault of children and adolescents is a public health problem that is met with incomprehension and indignation. Although it is an issue that is receiving growing attention, two crucial questions are as yet unanswered: Do the most recent data demonstrate a decline in the number of sexual assault victims in our society?; and Have prevention programs been successful in mitigating the sexual victimization of children and adolescents? This article looks at the current state of knowledge on those two issues which, although interconnected, are most often dealt with independently.

The incidence rates for sexual assaults known to authorities vary year by year. In the United States, the rates declined 61% from 1992 to 2009, dropping from more than 200 cases to 89 cases per 100,000 children (Finkelhor, Jones and Shattuk, 2011). In Canada, a more than 50% decline was observed between 1998 and 2008 (from 89 to 43 cases per 100,000; Collin-Vézina, De La Sablonnière, Silva and Tourigny, 2011). The three Quebec studies on cases reported to youth protection authorities show incidence rates similar to the Canadian experience in 1998 (81/100,000) and 2008 (55/100,000), although an increase was noted in 2003 (Collin-Vézina et al., 2011). What remains to be ascertained is whether the annual incidence rates are reliable indicators of the extent of the problem and whether the decline in the number of victims known to the authorities is reflective of a true decline in the number of child sexual assault victims.

As regards the reliability of incidence rates, an initial response lies in the prevalence studies conducted among adults and documenting sexual assault before they reached the age of majority. A meta-analysis that looked at more than 200 international studies carried out between 1980 and 2008 with a total of nearly 10 million participants revealed prevalence figures of self-reported

¹ Ministère de la Santé et des Services sociaux [Quebec Ministry of Health and Social Services], 2001, p. 22

sexual assault (18.0% of women and 7.6% of men) 30 times higher than the authority-reported prevalence rates (Stoltenborgh, Van Ijzendoorn, Euser and Bakermans-Kranenburg, 2011). In Quebec, a survey revealed that 21.3% of adults who were sexually assaulted during childhood never revealed the incident to anyone before the study, and more than half waited more than five years after the assault took place before disclosing it (Hébert, Tourigny, Cyr, McDuff and Joly, 2009). Those results confirm a “tip of the iceberg” phenomenon, where only known cases form the above-water portion, failing to truly reflect all substantiated sexual assault cases for a given period of time. Even though those data illustrating that known cases represent the tip of the sexual assault iceberg relate to childhood prevalence rates, we can presume that the same is true for the annual incidence rates documented by authorities.

For the second question, whether there has been a true decline in annual incidence rates, an initial response concerns the numerous filters juxtaposed between substantiated cases of sexual assault and cases known to authorities. Still using the iceberg metaphor, variations in incidence rates due to filters would represent a variation in the water level either hiding or exposing more of the iceberg, which may nonetheless remain unchanged in size over the years. Those filters are manifold and range from victims’ willingness to lodge a complaint with authorities to changes in sexual assault reporting and substantiation practices in child protection (Collin-Vézina et al., 2011). In the United States, however, research has shown that such filters could not alone account for the sharp and constant decline in the incidence of sexual assault and that the decline had to be reflected in part by

In Quebec, a survey revealed that 21.3% of adults who were sexually assaulted during childhood never revealed the incident to anyone.

an actual drop in incidence rates. Those conclusions were all the more robust, as the declining incidence of sexual assault matched similar declines in self-reported prevalence rates and crime in general (Finkelhor and Jones, 2004). Those observations have never been corroborated, however, in either the Quebec or the Canadian context (Collin-Vézina, Hélie and Trocmé, 2010). Moreover, the results of three telephone surveys representative of the entire adult Quebec population carried out in 2002, 2006 and 2009 point instead to stability in the self-reported prevalence of sexual assault during childhood, hovering around 22.1% for women and 9.7% for men (Collin-Vézina et al., 2011).

Child sexual assault prevention programs

Although a true decline may partly underlie the decreases in observed incidence rates, the explanatory factors for this remain to be determined. Child sexual assault prevention programs aim precisely at reducing sexual assault rates and the question of their impacts may provide us with possible answers. We should first mention the existence of two widespread forms of sexual assault prevention efforts, namely, offender “management” and educational programs delivered for the

most part in school settings. The approach that aims to control known offenders, for example, registries, background employment checks, longer prison sentences and various intervention programs, is a tertiary prevention initiative that acts mostly in the individual sphere and, as such, presents certain inherent limitations in regards to prevention (Finkelhor, 2009). Indeed, although the public generally approves of so-called punitive legal practices, such as longer sentences, they are based on a misconception of sexual abusers as pedophiles, “guileful strangers” who prey on children in public places, when in actual fact the child sex offender population is more varied, includes individuals known to the victim and is comprised of juveniles in almost a third of cases (Finkelhor, 2009).

The second most frequent approach, primary prevention, involves universal educational programs generally delivered in schools and aimed at potential victims. In the majority of cases, those universal programs also intervene in the individual preventive sphere and more infrequently in the family or societal sphere. As regards children attending elementary school, meta-analyses by Zwi et al. (2007), covering 15 studies, and by Davis and Gydycz (2000), covering 27 studies, revealed that programs are effective at building children’s knowledge about sexual assault and their preventive skills. The second of those two meta-analyses further demonstrated that programs are more effective if they are long in duration (four sessions or more), if they repeat important concepts, if they provide children with multiple opportunities to actively practice the taught notions and skills, and if they are based on concrete concepts (what is forbidden) rather than abstract notions (rights or feelings). In Quebec, the “Espace” program has proved to be effective for

building knowledge and skills among children in an average socio-economic environment (Hébert, Lavoie, Piché and Poitras, 2001 – documented in Zwi et al., 2007), but presented mitigated results in a multi-ethnic and underprivileged urban environment, indicating that the program may need to be adapted in that environment in order to optimize its effects (Daigneault, Hébert, McDuff and Frappier, in press).

As regards adolescents or young adults attending secondary school or university, a meta-analysis that looked at 69 studies and close to 20,000 participants revealed that programs are effective for improving participants' knowledge and attitudes (Anderson and Whiston, 2005). However, changes in terms of behaviours or intentions to act were too low to be clinically significant. Three Quebec-based programs have also demonstrated conclusive effects in terms of participants' knowledge and attitudes (ViRAJ; Lavoie, Dufort, Hébert and Vézina, 1997; J'AVISE; Chamberland, 2003; and Viol-Secours; Daigneault, Hébert, McDuff, Michaud and Magnan, 2010) and obtained effect sizes similar to the study those reported by Anderson and Whiston (2005).

For some of the above programs, data are available to suggest that they also diminish the incidence of child sexual assault (Gibson and Leitenberg, 2000) and sexual abuse in teenage romantic relationships (Foshee et al., 2005). Those results are embryonic, however, since studies relating sexual assault prevention

programs to incidence and its fluctuations are too few and far between; consequently, we have little to show that prevention efforts introduced since the 1970s have had an effect on true incidence rates or incidence rates observed by authorities (Finkelhor, 2009; Wurtele, 2009).

Prevention: A global approach

A multi-factorial conceptualization of sexual assault suggests that only the development of global preventive approaches, targeting personal, family and societal conditions that influence the risk of assault, may substantially reduce incidence and prevalence rates (Wurtele, 2002, 2009). Those actions make take a variety of forms, such as awareness campaigns piloted by the Quebec Ministère de la Culture, des Communications et de la Condition féminine [Ministry of Culture, Communications and the Status of Women](Cadrin, 2011), efforts to provide proper training to all persons who may work with young people (Bergeron and Hébert, 2011), or even the development of "kits" urging the media to provide concise information free of sexism, prejudices and sensationalism when reporting on sexual assault cases.

If such approaches were implemented and coordinated on a broad scale, they may have a sharper impact on the number of sexual assault victims. If, additionally, stringent assessments were performed to document their effects, we would have a better understanding as to

how much of the decline in incidence rates of sexual assault is attributable to a mere fluctuation in the water level concealing the true size of the iceberg, and how much is attributable to a drop in actual cases of sexual assault, or a "melting" of the iceberg.

Conclusions

To induce melting of the iceberg, we need to pursue prevention efforts, inspired by best practices among children and adolescents and incorporating those best practices into sex education, while directing our attention not only to potential victims but to potential offenders as well. Preventive practices must also be expanded to include families and society as well; all professionals who may be called upon to intervene with children must systematically receive training on the issue of sexual assault and implementation of the government action plan must be evidence-based and the impacts of that action plan must be systematically evaluated. Psychologists and other professionals working with troubled children could contribute to a better understanding and prevention of this problem in Quebec by systematically evaluating the presence of maltreatment and sexual assault in all of the children they encounter and reporting any suspicion to youth protection authorities.

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YOUTH INTERVENTION RESOURCES AVAILABLE FOR PROFESSIONALS

The **Ordre des psychologues du Québec** has produced practice frameworks and guidelines, including:

- Scope of Practice of School Psychologists
 - Guidelines. Mental Retardation Assessment
 - Guidelines for Attention Deficit Disorder with/without hyperactivity-Pharmacological Treatment (updated) (in French only, under the title: *Lignes directrices pour le trouble déficit de l'attention /hyperactivité et l'usage de stimulants du système nerveux central*)
 - Guidelines for the assessment of a child in connection with a request for derogation to the age of school admission
 - Guidelines for expert assessment concerning child custody and access rights
- ordrepsy.qc.ca/en/documentation-et-medias/guides-frameworks-and-guidelines.sn

Children's Mental Health

Ontario provides clinical practitioners with documentation (in English and French) on clinical tools and best practices for many childhood issues, including bullying, anxiety disorders, drug addiction, mood disorders, self-mutilation and suicide.

kidsmentalhealth.ca/professionals/interventions_and_research.php

The official website of the Canadian Child Welfare Research Portal

provides access to research on Canadian child welfare programs and policies.

cecw-cepb.ca/fr/home

In 2006, the Child and Adolescent Mental Health Services Evidence Based Practice Unit at University College London,

in collaboration with The British Psychological Society and the Centre for Outcomes Research and Evaluation, produced a document that presents research findings and evidence for different forms of intervention and made recommendations for a variety of problems, including disturbances of conduct, disturbances of attention, mood disorders, anxiety disorders, post-traumatic stress disorder, psychotic disorder, eating disorder, deliberate self-harm, substance abuse, pervasive development disorders and coping with pain.

For disturbances of conduct, the following guidance is given:

- Parent training is the treatment of choice for conduct problems in children under 10 years old, particularly those with moderate severity;
- For older children (8–12 years) and for more severe presentations, parent training should be combined with individual interventions that provide problem solving and social skills training;
- Individual approaches for adolescents should focus on coping and problem solving;
- Medication should be avoided as the first line of treatment;
- The use of psychostimulants for children with co-morbid ADHD should be considered when no improvement has been achieved by psychosocial treatments.

For anxiety disorders, the following is recommended:

- Cognitive or cognitive behavioural therapy (whether in group or individual format) for phobias, generalized anxiety and obsessive-compulsive disorder;
- Medication may be considered when psychotherapy has not achieved the anticipated effects.

For anorexia, the following is recommended:

- Family therapy and behavioural treatment should be offered in order to increase weight when necessary.

Drawing on the Evidence: Advice for mental health professionals working with children and adolescents. ucl.ac.uk/clinical-psychology/EBPU/publications/pub-files/drawing_on_the_evidence_booklet_2006.pdf

CHILDHOOD

An area of focus for psychologists and researchers in Quebec

Professor **Miriam Beauchamp**, Psychologist, of the Université de Montréal (and CHU Sainte-Justine), heads the ABCs Developmental Neuropsychology Laboratory.
www.abcs.umontreal.ca

Professor **Armando Bertone**, Psychologist, directs the Perceptual Neuroscience Lab for Autism and Development, whose work deals with autism, at McGill University.
www.pnlab.ca

Professor **Annie Bérubé**, of the Université du Québec en Outaouais, conducts work on assessing the effects of programs delivered in practice settings and targeting young children and their families.

Professor **Nathalie Bigras**, of UQAM, directs the *Équipe de recherche qualité éducative des services de garde et petite enfance*. Her research examines educational contexts that promote child development during early childhood.
www.er.uqam.ca/nobel/petitenf

Professor **Claud Bisailon**, Psychologist, and his team at the Université de Sherbrooke study attachment in preschool and school-age children.

Professor **Thérèse Bouffard**, of UQAM, is interested in motivation, learning goals, the role of parents and teachers, and transitioning from elementary to secondary school.

Professor **Krista Byers-Heinlein** directs the Infant Research Laboratory at Concordia University. Her work investigates language acquisition.
www.crdh.concordia.ca/InfantResearch

Professor **Chantal Cyr**, Psychologist, and her team, the *Laboratoire d'études sur le développement de l'enfant et sa famille* at UQAM, investigate child attachment.

Professor **Mireille Cyr**, a psychologist at the Université de Montréal, conducts work relating to investigation interviews with children suspected of being sexual assault victims, as well as children's adjustment and more particularly the effect of parental support.
www.cripcas.ca

Professor **Jacinte Dion**, a psychologist at the Université du Québec à Chicoutimi, studies the psychosocial adjustment of children and adolescents, particularly in members of First Nations and sexual assault victims with an intellectual disability.
www.uqac.ca/jdion

Professor **Melanie Dirks**, of McGill University, is interested in social competence and mental illness in young people.

Professor **Karine Dubois-Comtois**, a psychologist at the Université du Québec à Trois-Rivières (UQTR) (and Montreal's Hôpital du Sacré-Cœur), conducts work on the clinical application of attachment theory with a variety of at-risk populations.
www.psyuqtr.ca/prof/dubois-comtois.htm

Professor **Marie-Hélène Gagné**, of Université Laval, carries out work on parental practices, youth protection and adjustment and insertion trajectories of troubled youth.

Professor **Catherine Herba**, of UQAM, researches children's emotional development and the effects of maternal depression.
www.chu-sainte-justine.org/Recherche

Professor **Irène Krymko-Bleton**, Psychologist, directs the Quebec stream of international research on identity construction in the world of today.

Professor **Carl Lacharité**, Psychologist, directs the Centre d'études interdisciplinaires sur le développement de l'enfant et la famille at UQTR. His work relates to situations of child neglect and possible interventions to address those situations.
www.uqtr.ca/ceidef

Professor **Sarah Lippé**, a psychologist at the Université de Montréal (and CHU Sainte-Justine), works on the cerebral and cognitive development of healthy children and children with a neurological disorder.

Professor **Jennifer J. McGrath**, Psychologist, and her team at the Concordia University Pediatric Public Health Psychology Lab, study early risk factors for cardiovascular disease that develop during childhood and adolescence.
www.pphp.concordia.ca

Professor **Dominique Meilleur**, Psychologist, of the Université de Montréal, directs the Laboratoire de recherche sur l'adolescence et les troubles de la conduite alimentaire (TCA).

Professor **Sébastien Normand**, of UQO, directs research that aims to increase our understanding of the impact of attention deficit hyperactivity disorder (ADHD) on children's friendships.

Professor **Pierre Plante**, of UQAM, is interested in art therapy, cultural mediation and the use of creativity in therapy.

Professor **Marc Provost**, of UQTR, conducts work on social skills development and family relationships, primary prevention and risk factors in young children.
www.psyuqtr.ca/prof/provost.htm

Professor **Nancie Rouleau**, of Université Laval, carries out work on neuropsychological characterization of the schizophrenia prodrome and bipolar disease, as well as on ADHD and the normal development of attention.

Professor **Jessica Ruglis**, from McGill University carries out work that includes investigating the social and educational determinants of health and youth development.

Professor **Steven Shaw**, heads the Resilience, Pediatric Psychology, and Neurogenetics Connections Lab, where he studies academic achievement in at-risk children.
www.mcgill.ca/connectionslab

Professor **Diane St-Laurent**, of UQTR, conducts studies in such areas as the impact of mistreatment on children's adjustment.
www.psyuqtr.ca/prof/st_laurent.htm

Professor **Victoria Talwar**, of McGill University, studies children's social-cognitive development, their moral development, and children's testimony in courts-of-law.
www.TalwarResearch.com

Professor **Miguel M. Terradas**, a psychologist at Université de Sherbrooke, is interested in mentalization capacity and affect regulation in child trauma victims.

Professor **Réjean Tessier**, of Université Laval – *Centre de recherche du CHUQ*, works with children who were born prematurely or with a low birth weight. He also works with children who have been adopted.

Professor **Marie-Hélène Véronneau**, of UQAM, carries out work particularly on academic achievement and perseverance and relations with peers.