Part I
Professional Psychology
Mental and behavioural problems during childhood and adolescence are a serious public-health concern. About half of all lifetime mental disorders begin before the age of 14 years. Worldwide prevalence rates for child and adolescent mental disorders are around 20% with similar types of disorders across cultures...the gap in mental-health services for children and adolescents with mental disorders is evident in virtually all countries at a time when the need has never been greater. (Belfer & Saxena, 2006, p. 551)

Clinical child psychology as a research and practice specialty of applied psychology seeks to investigate and remediate mental health problems for children, adolescents, and their families. Aspects of clinical child psychology are found in different countries with a broad range of populations, settings, problems, assessment, and intervention techniques. As noted in one definition,

The research and practices of Clinical Child Psychology are focused on understanding, preventing, diagnosing, and treating psychological, cognitive, emotional, developmental, behavioral, and family problems of children. Of particular importance to clinical child and adolescent psychologists is a scientific understanding of the basic psychological needs of children and adolescents and how the family and other social contexts influence socio-emotional adjustment, cognitive development, behavioral adaptation, and health status of children and adolescents. (Clinical Child Psychology Formal Specialty Definition, 2005)

Several efforts and developments in the United States, as one example of formalizing the clinical child psychology specialty, include recognition as a specialty in professional psychology by the American Psychological Association (APA: Commission for the Recognition of Specialties and Proficiencies in Professional Psychology, 2009),
establishment of board certification (American Board of Clinical Child and Adolescent Psychology, 2009), formation of divisions within APA (e.g., Society of Clinical Child and Adolescent Psychology, 2009; Society of Pediatric Psychology, 2009a), and development of accredited doctoral training programs providing substantiated training (e.g., University of Kansas Clinical Child Psychology Program; University of Denver Child Clinical Psychology Program). Other countries have also begun a process of developing their clinical child and adolescent psychology components (e.g., Australia, New Zealand, and England), but, in some countries, these types of specialists in child and adolescent mental health services are virtually nonexistent. The emergence of clinical child psychology as a specialty field is documented by numerous international professional journals devoted to its primary topics (e.g., Child and Adolescent Mental Health, Clinical Child and Family Psychology Review, Clinical Child Psychology and Psychiatry, Developmental Psychopathology, Journal of Abnormal Child Psychology, Journal of Child Psychology and Psychiatry, Journal of Clinical Child and Adolescent Psychology, and Journal of Pediatric Psychology).

Range of topics and problems for clinical child psychology

Clinical child psychologists provide services and conduct research on a range of problems and psychological concerns such as (a) infants born preterm, medically ill, or exposed to drugs; (b) youth with serious emotional disturbances such as schizophrenia and developmental disorders such as autism and mental retardation; (c) children with behavior and psychological disorders such as attention deficit/hyperactivity, oppositional defiant or conduct disorders, anxiety, or depression; (d) children adjusting to life changes such as divorce, death, relocation, or remarriage; (e) children coping with trauma of disasters, war, terrorism, or community/family violence (including child physical and sexual abuse); (f) children living with physical illnesses, adhering to medical regimens, or coping with pain; (g) children with cognitive deficits and school performance problems; (h) adolescents with delinquency and high-risk behaviors of substance abuse or sexual behaviors; and (i) children in poverty and without adequate health care. Of course this list is illustrative at best, not comprehensive (see also Ollendick & Schroeder, 2003; Roberts & Steele, 2009; Walker & Roberts, 2001). The epidemiology and range of children’s mental health problems appears to be similar for developing and developed areas of the world (Belfer & Rodhe, 2005).

Settings in which clinical child psychologists function

The settings in which clinical child psychological researchers and practitioners conduct their work include a diverse range of models, facilities, and units to organize services.

Mental health centers. In some countries, clinical child specialists primarily practice within a national health service in governmental units for child and adolescent mental health services. Similarly, in the US, mental health services are most commonly avail-
able through the public sector in a system of community mental health centers and child guidance clinics (Smith-Boydston, 2005). Responsive to cultural and community needs, these outpatient centers often involve teams of mental health professionals. Through concepts of “system of care” and treating individuals in the “least restrictive environment” (e.g., community-based services), professionals collaborate with agencies for social welfare, juvenile justice, alcohol and drug treatment, health care, and with schools. Outpatient services may include individual, group, or family therapy. Community outreach services may also be provided for school-based preventive programs or in-home interventions such as multisystemic treatment.

**Schools.** When children in educational settings display psychological problems that require intensive intervention to enhance developmental and educational outcomes, clinical child psychologists frequently consult, assess, and intervene with problems of behavior management and academic performance. For example, psychological services for children with serious emotional disturbances may be provided through school-based programs such as therapeutic classrooms or day treatment programs (Roberts, Jacobs, Puddy, Nyre, & Vernberg, 2003). School psychologists may also provide services for psychoeducational needs of children in educational settings (Lee & Jamison, 2005), but not all countries differentiate the specialties.

**Children’s hospitals and medical settings.** Pediatric psychologists, as a subspecialty in clinical child psychology, provide clinical services for children through hospitals and outpatient clinics specializing in the care of children and adolescents. Their practice includes inpatient and outpatient modalities based in medical settings that address concerns related to health care and medical illness (Roberts & Steele, 2009). These services may be indirect (e.g., through consultation and collaboration with physicians and nurses) or direct interventions (i.e., involving the child or family), and focus on issues such as adjustment to disease, medical adherence, pain control, behavior management, health promotion, and problem prevention. In addition to children’s hospitals, university-based medical centers frequently employ psychologists to provide services and investigate these phenomena in departments of pediatrics or departments of psychiatry. Psychologists conduct significant clinical research on pediatric psychosocial issues.

**Inpatient treatment centers.** In providing the most intensive form of intervention for severe disorders, clinical child psychologists work with a team of professionals in inpatient settings that include government-subsidized psychiatric hospitals and independent residential or inpatient treatment facilities. These centers often face the most acute challenges of psychosocial impairment and potential harm to self or others (Vargas & de Dios Brambila, 2005). Some centers focus on short-term stays of less than two weeks for stabilization while others allow longer-term residential care. Clinical child psychologists provide assessment and diagnostic services in addition to direct psychotherapy through individual and group modalities.
Private practice. In some countries, such as in the US, a sizeable number of child specialists in outpatient private practice receive reimbursement from health insurance plans or from personal payments by parents for providing psychological assessment and treatment services (Landolf, 2005). The private practitioner frequently works with the parents or family and consults with other professionals such as teachers or physicians. This model requires entrepreneurship and may be subject to limitations on reimbursement for certain activities or parental ability to self-pay. Although many work in individual private practices, psychologists and other mental health professionals may work together in groups in these settings for financial reasons and to coordinate different aspects of care (e.g., with social workers and psychiatrists).

University and research settings. Clinical child and pediatric psychologists serve on faculties of universities and colleges where they conduct research, teach, and supervise baccalaureate and doctoral trainees. University-based researchers investigate the full gamut of topics in child development, psychopathology, psychological interactions with physical health, and effective interventions to improve the quality of life for children and their families. Grants often support scientific activities. Research institutes, funded by philanthropies or grants, provide another setting in which child-oriented investigators work in teams to improve understanding of such issues as the etiology and course of developmental psychopathology or the organization and impact of mental health service delivery.

Trends and Key Developments in Clinical Child Psychology

Developmental psychopathology

As a field concerned with identifying and treating emotional, behavioral, and developmental disorders in childhood and adolescence, clinical child psychology is naturally concerned with how these disorders emerge and progress. In this regard, the thinking of clinical child psychologists is greatly influenced by the field of developmental psychopathology, defined as “the study of the origins and course of individual patterns of behavioral maladaptation” (Sroufe & Rutter, 1984, p. 18). Rutter and Sroufe (2000; see also Sroufe & Rutter, 1984) described the developmental psychopathology perspective in terms of the field’s view on three key issues: (a) causal processes, (b) development, and (c) continuities and discontinuities between psychopathology and normality. Regarding causal processes, the field of developmental psychopathology aims to understand how risk and protective mechanisms operate and lead to either disorder or adjustment and the factors that influence the course of pathological processes after they first surface. Psychopathology is viewed as emerging from a complex interplay of multiple genetic, biologic, and environmental factors and transactions between an individual and the environment that unfold in a chain of effects over time (Rutter & Sroufe, 2000). The connection to clinical child psychology is quite intuitive: by identifying the factors and processes that give rise to disorder versus adjustment, developmental psychopathological research identifies
potential targets for prevention and treatment for anxiety, depression, oppositional and anti-social behavior, and other childhood problems.

A focus on development is central to both clinical child psychology and developmental psychopathology. A central tenet of developmental psychopathology is that knowledge of typical development is needed to understand the emergence of disorder and, conversely, that understanding the development of psychopathology sheds light on basic developmental processes (Cicchetti, 1984). Although development implies change, development also includes continuity and coherence, as many aspects of the individual remain constant over time, and current behaviors and circumstances are connected to the individual’s past and future. Attention to the developmental periods and their associated challenges and milestones are particularly germane to clinical child psychology. Treatments may need to address not only the presence of a disorder, but also the areas of development affected by the disorder. Further, the clinical child psychologist is mindful of development as it relates to the emerging skills of the child and the child’s ability to benefit from a particular treatment modality.

The third central concept identified as by Rutter and Sroufe (2000) is the notion that there are both continuities and discontinuities between normality and psychopathology. That is, psychopathology, in some senses can be represented as an extreme of a characteristic present in normal existence. Conversely, psychopathology may represent a complete departure from typical development. The practice of clinical child psychology often necessitates a categorical view of psychopathology; psychologists often determine whether the presenting symptoms meet criteria for a disorder (i.e., for billing/insurance reimbursement purposes). Nonetheless, clinical child psychologists are aware that symptoms and behavior frequently occur along a continuum of severity. In addition, they are aware of consistencies and changes in the presentation of disorders across development. Calls for diagnostic systems that more strongly reflect developmental changes are illustrative of this awareness.

Evidence-based practice

The evidence-based practice movement in clinical child psychology strives to provide child and adolescent services that have adequate scientific support for their use. This movement is not unique to the field of clinical child psychology, because science-informed approaches to assessment, diagnosis, and treatment are emphasized by other professions including medicine, public health, and social work (Roberts & James, 2008). Although the term “evidence-based practice” and related terms including “empirically supported treatments” are relatively new, the notion of integrating science and practice is consistent with the longer-standing tradition of training doctoral level psychologists in both research and practice in many developed countries (APA Presidential Task Force on Evidence-Based Practice, 2006; Charman & Barkham, 2005).

The common thread in the messages of the evidence-based practice movement around the globe is that clinical practice should be based on evidence of what works from carefully designed and reviewed scientific study (see, for example, APA Presidential Task Force, 2006, in the US; Charman & Barkham, 2005, in Australia; and the World Health Organization, 2005). Most definitions of evidence-based
practice (EBP) are based on empirically supported treatments (ESTs) and often mention the use of psychometrically sound assessment techniques. ESTs are typically defined as including a clear description of intervention procedures in a treatment manual and empirical evidence demonstrating the treatment’s efficacy over a control or alternative treatment condition, with randomized controlled trials (RCTs) often held as the gold standard. Peer-reviewed publications summarizing evidence-based practice specific to clinical child and adolescent psychology include special issues and sections on psychosocial treatments (Lonigan, Elbert, & Johnson, 1998; Silverman & Hinshaw, 2008), evidence-based assessment (Mash & Hunsley, 2005), and special issues on assessment and treatment in pediatric psychology (Cohen et al., 2008; and Spirito, 1999; respectively). A growing number of edited books on EBP with children and adolescents have also been published (e.g., Carr, 2000; Hibbs & Jensen, 2005; Fonagy, Target, Cottrell, Phillips, & Kurtz, 2002; Mash & Barkley, 2007; Steele, Elkin, & Roberts, 2008). The report of the American Psychological Association Task Force on Evidence-Based Practice for Children and Adolescents (2008) also provides applications of EBP to clinical child and adolescent psychology.

As in other fields of professional psychology, the EBP movement in clinical child psychology has stirred some controversy. Criticisms of EBP include claims that manuals promote a “cookbook” approach to treatment without adequate attention to individual client characteristics and that the EBP movement places too great an emphasis on RCTs, which some claim to weigh internal validity too strongly over generalizability to populations commonly seen in clinics (see Roberts & James, 2008). Proponents of EBP addressed such criticisms by stressing that, while manuals should provide clear guidance on the core elements of a treatment, their implementation requires clinical judgment and can be tailored for the characteristics of an individual client. This “flexibility within fidelity,” as termed by Kendall and Beidas (2007), is particularly important in working with children and adolescents, among whom there is great variability across development.

The criticisms of ESTs and EBPs have also been implicitly or explicitly addressed in the various descriptions of EBP. For example, in the United States, clinical expertise and patient characteristics, culture, and preferences are explicitly included with research-based evidence as the “three pillars” of EBP (APA Presidential Task Force on Evidence-Based Practice, 2006). To address criticisms related to over-reliance on the “top-down” approach of RCTs, some have advocated for efforts to study outcomes related to clinical practice in the community as a way to build the evidence base “from the bottom up” (Charman & Barkham, 2005; WHO, 2005).

Although defining the criteria for empirically supported treatments has not been without controversy, defining clinical expertise has lagged behind and proven to be more elusive. Recent definitions have included “competence attained by psychologists through education, training, and experience that results in effective practice” (APA Presidential Task Force on Evidence-based Practice, 2006, p. 275). Currently underway are efforts to enumerate domains of competence (e.g., assessment, treatment and cultural sensitivity) as well as the specific experiences and skills needed to learn and demonstrate competence in each domain at various levels of competency. Efforts to define how one should integrate client characteristics and preferences into evidence-based practice have been less formalized.
Cultural competence

Clinical child psychology, like most clinical fields, has begun to recognize the importance of culture in the lives of youth. Because youth of different ethnic origins will likely outnumber Caucasian youth in the US by the year 2023 (US Census, 2004) and because, internationally, the number of youth with non-European ethnicities is greater than the number of youth with European heritages, the need for attention to the mental health needs of youth from diverse backgrounds is sorely needed. Signs of hope that the field is responding to the need suggest that not only do clinical child psychologists understand the importance of attending to the psychological health of children, but that a new generation of professionals is emerging who have been trained to integrate the knowledge base on the role of culture into their research and practice endeavors. For example, in 1982, 60% of accredited clinical programs in the US did not offer a course on multicultural issues and no program required such a course in their model of training (Bernal & Padilla, 1982). In 1995 however, the American Psychological Association Committee on Accreditation mandated that diversity issues be addressed in a required course as well as being incorporated into courses in the general clinical curriculum. To date, all accredited clinical programs in the US, including clinical child programs, have courses devoted to presenting the issues relevant to the multicultural world of youth. To understand the multicultural competence trend in clinical child psychology, it is important to understand not only how these professionals are trained, but also the professional mandates and guidelines, and the operation of these requirements into the practice and science of clinical child psychology. Diversity issues or multicultural skills in clinical child psychology can mean many things, and the definition of culture and cultural competence for clinical child professionals has had many iterations. These terms need to be clarified so that professionals agree on the terms and clinical training and practice can assess and evaluate knowledge and practice of multicultural competencies (Giannet, 2003). In its most simple form, cultural competence is defined as the ability to provide professional services cross-culturally (Sue & Sue, 2008). To do so means that the psychologist understands (a) his or her own cultural values and biases, (b) the worldview and values of the target population, and (c) how to adapt clinical and research approaches to the culture of the target population.

Professional mandates and guidelines. In 2003, two significant developments in the US addressed the needs of multicultural populations and clinical child service providers. First, the Ethical Principles and Code of Conduct published by the American Psychological Association took effect (APA, 2002). The new ethical code made it clear that to provide ethical services is to respect and be aware of cultural differences and to incorporate cultural information into practice and service (i.e., in interpreting test data and establishing boundaries of competence). Second, the Guidelines on Multicultural Education, Training, Research, Practice, and Organizational Change for Psychologists were published by APA’s Office of Ethnic Minority Affairs (APA, 2003). This document provides six guidelines that “reflect the knowledge and skills needed for the profession in the midst of dramatic historic sociopolitical changes in U.S. society, as well as needs from new constituencies, markets, and clients” (p. 5).
The document specifically mentions services to children, youth, and families as a part of the need for culturally appropriate psychological services. These recent efforts suggest that the field is changing from a monocultural perspective to a more multicultural one that appreciates the meaningful differences and complexity that culture brings to clinical science and practice (Pack-Brown & Williams, 2003).

**Practice implications.** As a result of professional mandates and guidelines, the field of clinical child psychology has begun to address the need for cultural competence in several ways. First, as mentioned before, training programs are incorporating multicultural information in their curricula. Moreover, in an effort to create competency standards for clinical practice, the Association of Directors of Psychology Training Clinics (2009) produced a report detailing practicum competencies. Specifically, this document spells out in one of their 11 standard clinical competencies that trainees and practitioners need to have knowledge of themselves in the context of diversity and how their own culture impacts treatment, knowledge of how culture impacts the treatment relationship, and the ability to work effectively with diverse others in assessment, treatment, and consultation. As psychology training programs begin to address these competencies, the field is moving beyond general definitions of cultural competence to delineate specific skills, attitudes, and behaviors that constitute culturally competent practice.

**Professional implications.** Research in clinical child psychology has also seen an increase in professional standards and the dawn of an era of a rethinking of research methods as they apply to cultural issues. Clearly, science cannot inform practice if science is not following a shared value toward more cultural application and utility of research findings. Clinical child psychology researchers are beginning to adjust their approaches to address questions that are not only relevant to cultural issues (i.e., cultural adaptations and empirically based practice), but also beginning to focus on the very nature of the operation of culture in the mental health of children of color. Although the same emphasis has not been placed on other kinds of diversity (i.e., religious, linguistic, or sexual), some change can be observed, not only in the research questions, but also in the greater numbers of children of color included in research, and in the ways that research is designed and the findings interpreted for youth of color. For example, in the *Journal of Clinical Child and Adolescent Psychology* from 2000 to 2008, 27 articles were published directly related to populations of ethnic minority youth and their mental health needs. This is in contrast to only 17 similar kinds of articles published in the decade prior, suggesting a significant increase in the number of scholarly articles related to culture. Although this journal is not the only one publishing important work on culture and clinical child issues, the example above does suggest that ethnic minority youth issues are getting more attention in research.

Internationally, signs that research is invested in the mental health needs of youth are abundant. International journals consistently publish work on youth from various ethnic backgrounds along with topics that may see little attention in U.S. populations. For example, clinical child research includes studies such as on adjustment after exposure to terror attacks among Palestinian children (Punamaki, Qouta, & El-Sarraj, 2001), the effects of war on youth (Ronen, Rahav, & Rosenbaum, 2003), coping
with HIV/AIDS within the cultural context of South Africa (Cook & Du Toit, 2005), and the sociological context of *ijima* (bullying) in Japan (Ruiz & Tanaka, 2001).

### Psychopharmacology

Considerable variability exists across countries in the use of pharmacological treatments for children’s mental health conditions (Clavenna, Rossi, DeRosa, & Bonati, 2007; Vittiello, 2008). As described in more detail by Vittiello, the observed differences in prescription rates across countries probably reflect differences in cultures and cultural values, healthcare systems, clinical practice and treatment guidelines, pharmaceutical marketing, and regulations on the distribution and prescription of pharmacologic agents. Despite the overall differences by country or culture, the past two decades have witnessed a sharp increase in the rates of psychotropic medication prescriptions issued for children and adolescents in a number of industrialized nations, including several in the European Union, Canada, and the United States (Clavenna et al., 2007; Mitchell et al., 2008; Olsson, Blanco, Liu, Moreno, & Laje, 2006; Parks Thomas, Conrad, Casler, & Goodman, 2006). Similar to the differences in base rates, these observed changes in prescription rates may reflect changing guidelines for diagnosis and treatment, changes in regulations governing the use of these medications in youths, new findings regarding the safety of some medications, and the development of newer (and sometimes safer) pharmaceutical agents (Clavenna et al., 2007; Parks Thomas et al., 2006; Vittiello, 2008).

Although the literature on pediatric psychopharmacology has lagged behind the adult literature (Brown, Daly, Carpenter, & Cohen, 2009), a number of large clinical trials have recently begun to evaluate the efficacy and safety of pharmacological treatments for children and youth. For example, several large-scale evaluations have compared pharmacological treatment to cognitive-behavioral treatment (CBT) and combined therapies for Attention Deficit Hyperactivity Disorder (ADHD; MTA Cooperative Group, 1999a, 1999b), anxiety disorders (including Separation Anxiety Disorder, Generalized Anxiety Disorder, and Social Phobia; Walkup et al., 2008), Obsessive-Compulsive Disorder (OCD; Pediatric OCD Treatment Study [POTS] Team, 2004), and depression (Treatment of Adolescent Depression Study [TADS] Team, 2004). These major studies, as well as a number of other studies on the efficacy and/or safety of pharmacological therapies for a wider range of disorders and conditions are reviewed by Brown et al. (2009) and by the APA Working Group on Psychoactive Medications for Children and Adolescents (APA Working Group, 2006).

A growing body of evidence documents that some pharmacologic treatments can be effective for some mental health conditions in some children and adolescents (APA Working Group, 2006; Brown et al., 2009). Estimated effect sizes for pharmacological treatments of children and adolescents’ mental health conditions vary widely, from nonsignificant to large, depending on the condition, comorbid diagnoses, and whether the pharmacotherapy was delivered in combination with psychological treatments (APA Working Group, 2006). For example, fairly robust evidence exists for the use of stimulant medication for children and adolescents with ADHD combined...
with behavioral therapy for initial symptom reduction (MTA Cooperative Group, 1999a, 1999b). Similarly, serotonin specific reuptake inhibitors (SSRIs, e.g., fluoxetine) have shown moderately significant effects on depression (Usala, Clavenna, Zuddas, & Bonati, 2008), particularly when delivered with CBT (APA Workgroup, 2006). However, few studies have examined the long-term efficacy (or side effects) of pharmacological treatment for mental health conditions (APA Working Group, 2006; Brown et al., 2009), so the relative long-term risk/benefit ratio of many psychoactive medications remains uncertain.

As suggested by the above discussion, a number of issues should be weighed before considering pharmacotherapy as a treatment option. These include (a) the strength of evidence for the efficacy of the medication; (b) the likelihood and significance of possible side effects; and (c) the incremental benefit of medication over other available treatment options. Indeed, with these concerns in mind, the APA Working Group (2006) recommended a conservative approach to the use of medications when effective or efficacious psychological treatments are available. Specifically, they noted that:

For most of the disorders reviewed [in this report], there are psychosocial treatments that are solidly grounded in empirical support as stand-alone treatments. Moreover, the preponderance of available evidence indicates that psychosocial treatments are safer than psychoactive medications. Thus, it is our recommendation that in most cases, psychosocial interventions be considered first. The acute and long-term safety and efficacy data that are available for each disorder will be central to this determination. (p. 174)

Not only do clinical child psychologists consult with physicians over psychoactive medications, but also, in the US, some states have authorized psychologists with special training to prescribe medication for mental health disorders.

Pediatric psychology

As noted above, the term “clinical child psychology” encompasses activities in a number of contexts, among which is the intersection of the physical and mental health of children and adolescents known as “pediatric psychology” or “child health psychology.” As defined by the Society of Pediatric Psychology (SPP, 2009b), “pediatric psychology is an integrated field of science and practice in which the principles of psychology are applied within the context of pediatric health.” Reflecting research, practice, advocacy, and service areas, pediatric psychologists promote the health and development of children, adolescents, and their families across the continuum of health risk categories (i.e., healthy children, children at risk of disease, and children with diagnosed medical conditions).

The argument could be made that pediatric psychology has existed as long as clinical child psychology and clinical psychology have (Aylward, Bender, Graves, & Roberts, 2009; Walker, 1988). The Society of Pediatric Psychology was formed in 1969 (Aylward et al., 2009) and eventually recognized as a separate APA Division (in 2000) with a respected Journal of Pediatric Psychology (JPP; in 1976). Guidelines for training pediatric psychologists have been provided (Drotar, 1985; Spirito et al.,
2003). As noted by Kazak (2000) and more recently by Aylward et al., the subspecialty of pediatric psychology has achieved a clear position within psychology, with an identifiable and influential research base and scope of practice.

In terms of both research and practice, pediatric psychology is concerned with the psychosocial, developmental, and contextual factors associated with the etiology, course, and outcomes of medical conditions in children and adolescents, as well as the assessment and treatment of behavioral and emotional problems associated with illness, injury, or disability (SPP, 2009b). As noted by Aylward and colleagues (2009), the field addresses a wide range of chronic illnesses, such as asthma, cancer, diabetes, obesity, pediatric sleep problems, and sickle cell disease. Although, at times, there has been disagreement about specific content areas within pediatric psychology (Roberts & Steele, 2009), a broad view of the field is generally espoused by the SPP and JPP. This broad view includes prevention of illnesses and injury in children and adolescents, as well as promotion of optimal health and wellbeing, improvement of health care delivery systems, and advocacy for public policies that benefit children, adolescents, and families (SPP, 2009b).

Consistent with the general training recommendations for psychologists working with children, adolescents, and families (see Roberts et al., 1998), specialty training for pediatric psychologists begins with the broad and general principles common to professional psychology training programs. However, because of the unique needs and circumstances of children and adolescents, these broad and general principles must be considered in a developmental context for maximum benefit to the intended recipients of services (i.e., children, youths, and families; see Roberts, 2006). Characteristics of training programs for the subspecialty (Spirito et al., 2003) include training in a variety of interdisciplinary settings (including primary care) that allow trainees to gain exposure to and experience with intervention, assessment, and research methods applicable to children and families. Within these various settings, Spirito and colleagues recommended that trainees gain exposure to and experience with the range of professional roles and services that pediatric psychologists perform. Finally, they recommended specialized training with regard to the unique ethical and legal issues applicable to children and families, as well as training with regard to disease processes and medical management of pediatric medical conditions.

**Challenges and Opportunities for Applied Psychology in Clinical Child and Adolescent Psychology**

**Evidence-based practice in the “real world”**

Despite the gains that have been made through research in identifying assessment and treatment approaches that can be successful in treating childhood mental health problems, a number of authors have noted a gap between the evidence base amassed by research and professional practice with treatment of children and adolescents (Higa & Chorpita, 2008; Silverman & Hinshaw, 2008; Weisz, Chu, & Polo, 2004).

A number of barriers to the adoption of EBPs have been noted. First, multiple, complex, and sometimes conflicting definitions and taxonomies of EBP make it
difficult for clinicians to know which approaches have adequate support for their use (Higa & Chorpita, 2008; Proctor et al., 2007; Weisz et al., 2004). Second, some have argued that the criteria for empirical support is so strict that, for some problems and individuals, there is no treatment that meets the given criteria, perhaps mitigating the confidence that clinicians have in a particular treatment (Higa & Chorpita, 2008). Third, when there are multiple treatments identified as EBP, there may be little guidance available on which treatment to select for whom and under what conditions (Higa & Chorpita, 2008). Fourth, even if there were consensus on what constitutes EBP, much more work needs to be done in dissemination. Not only do clinicians need to be aware of the most up-to-date EBPs, they also need training on their implementation, which takes time and resources (Higa & Chorpita, 2008; Proctor et al., 2007). Although training in EBPs is associated with clinicians’ use of EBPs, favorable attitudes toward EBPs among clinicians, their work places, and their colleagues are also uniquely predictive of their use (Nelson & Steele, 2007). Therefore, developers and disseminators of EBPs need to be sensitive to the views of clinicians in the community and to the social contexts in which they work (Higa & Chorpita, 2008; Smith-Boydston & Nelson, 2008). Providing evidence of the success of a treatment in highly controlled clinical trials may not be adequately persuasive to practitioners, as the most highly rated factors influencing clinicians’ use of EBPs include studies of a treatment’s effectiveness in “real world” contexts, perceived flexibility of the treatment, and appeal to colleagues and clients (Nelson & Steele, 2008).

Research has only just begun to identify some of the barriers to and facilitators of the use of EBPs and very little of that work has focused specifically on the assessment and treatment of children and adolescents. As the field moves forward, it is faced with the challenge of evaluating what methods of dissemination work best and whether dissemination of EBPs actually leads to improved outcomes in the community (Weisz et al., 2004). Proposed models to guide this work include Weisz’s deployment-focused model (Weisz et al., 2004) and the multilevel contextual model proposed by Schoenwald and Hoagwood (2001). Both models emphasize attention to the context of service delivery in the development and evaluation of assessment and treatment methods. Also, to increase the chances that youth will receive the treatments best suited for their specific needs, individual characteristics, and circumstances, further work is needed to develop and disseminate effective means of assessment to match clients to treatments, to promote the practice of ongoing assessment to inform treatment (Weisz et al., 2004), and to identify the moderators and mediators of effective clinical practice so clinicians know what works for whom, under what circumstances, and how to aid in treatment planning (Silverman & Hinshaw, 2008). Finally, data on the financial costs and benefits of assessment and treatment approaches may be useful to program and center directors and others who influence the adoption of EBPs (Proctor et al., 2007).

Training issues/competencies

Although clinical child and adolescent psychology has been practiced for many decades, specific guidelines for training and for assessing professional competencies
have emerged more recently. Recognizing the lack of standards for training psychologists to work with youths and families, in 1981 Division 37 of the American Psychological Association commissioned a task force to develop guidelines to assist training programs develop specific curricula and practical experiences to ensure the competency of psychologists working with children, youth, and families (Roberts, Erickson, & Tuma, 1985). Building on this work, a subsequent task force commissioned by the U.S. National Institute of Mental Health (NIMH) produced a model for training psychologists to provide services for children and adolescents (Roberts et al., 1998), and the APA Practice Directorate established a task force commissioned to review and update existing recommendations for training (see La Greca & Hughes, 1999). Consistent with these initiatives, APA Division 54 (Society of Pediatric Psychology) later produced recommendations for specialty training in pediatric (child health) psychology (Spirito et al., 2003).

As noted by La Greca and Hughes (1999) and Prinstein and Roberts (2006), these various groups voiced consistent recommendations about specialty training for psychologists who work with children, adolescents, and families. These recommendations included (a) the necessity of developmentally oriented coursework and practical experiences; (b) a faculty with specific expertise in treatment and research with children, families, and youth; (c) opportunities for exposure to and experience with children, families, and youth in the range of professional roles (e.g., clinical services and research); (d) exposure to and experience with multisystemic models of intervention; and (e) mechanisms to assess specific competencies related to working with children, adolescents, and families.

Beyond training recommendations, these various groups identified a number of challenges that the specialty area would have to address to realize its promise to enhance treatment options for children, youth, and families. Among these challenges were listed (a) the need for recognition and representation on relevant accrediting bodies; (b) acceptance of the standards for specialty training by “general” programs; (c) delineation (and valid means of assessing) core competencies; and (d) recognition of specialty practice areas by licensing boards (La Greca & Hughes, 1999; Roberts et al., 1985).

Although there is some evidence that the specialty area of clinical child and adolescent psychology has been recognized by the field at large (La Greca & Hughes, 1999; Prinstein & Roberts, 2006), several of the challenges previously identified still remain. Among these are how best to document that the unique training needs of psychologists who serve children, adolescents, and families are met in the context of largely adult-focused clinical training programs; how to enforce standards for minimal training experiences for psychologists who wish to work with these populations; and how child-oriented training programs can work with accrediting bodies that typically operate within a “general” or “adult-oriented” program model (Prinstein & Roberts, 2006). As evidenced by a number of programs that have overcome these challenges successfully (see Roberts, 2006), these hurdles are not insurmountable, and progress is being made, particularly with regard to programs meeting the training needs of clinical child and adolescent psychologists and programs working with accrediting bodies to resolve the tension between broad and general training needs and specialization.
The field at large has become increasingly aware of the need for more comprehensive models for assessment of professional competencies (Kaslow et al., 2007; Roberts, Borden, Christiansen, & Lopez, 2005). The field has historically endorsed the assessment of entry-level professional competencies (Rubin et al., 2007), and Roberts and colleagues (1998) have articulated specific “exit criteria” (p. 299) for trainees at various levels (e.g., after completion of graduate training, internship, and post-doctoral training). However, assessment of competencies after licensure (i.e., post-entry-level) has remained more controversial (Roberts et al., 2005). Contributing to the controversy are questions regarding which competencies should be assessed, how frequently to assess them, and what form the assessments should take (e.g., Kaslow et al., 2007).

Within the context of the evidence-based practice movement, the issue of ongoing periodic assessment of competencies becomes increasingly important. Because the evidence base for psychological treatments for children, youths, and families continues (and will continue) to expand, mental health professionals must engage in continuing education to stay abreast of the current treatment literature (Long, 2008; Ollendick, 1984). A survey of practicing psychologists revealed that a majority of those sampled generally agreed that continuing education should be mandatory for licensure (Sharkin & Plageman, 2003). However, when participants were asked how frequently continuing education programs improve their practice as clinicians, responses were mixed. Consistent with this finding, a meta-analysis of the impact of formal continuing medical education programs for physicians revealed modest effect sizes (Davis et al., 1999), with higher effect sizes reserved for more interactive programs. These types of study suggest that efforts to provide continuing education to mental health professionals should employ more interactive approaches (e.g., perhaps including role-playing or supervision), and should be assessed for efficacy in terms of the professionals’ resulting competencies.

Internationally, issues of training, dissemination, and implementation of best practices in treating children, adolescents, and their families are increasingly becoming articulated. For example, Belfer and Saxena (2006) presented:

Training adequate numbers of providers capable of using the latest findings about child and adolescent mental-health disorders to implement effective treatments is a challenge faced in all countries. Most relevant is the absence of standards for training, the failure to use potential resources, and the inability to implement supplemental training for those who already have access to children potentially in need. Standards for training are non-existent in many areas of the world and lack enforcement in many others. (p. 552)

**Future Developments**

As the knowledge bases expand, demographics shift, and empirical evidence confirms new information, clinical child psychology will evolve. The mental health needs of children and adolescents require ongoing attention so that societies around the world can continue to grow and prosper. The clinical child psychologist needs a multidimensional set of skills to meet this challenge. Professionals in the field have expanded
their roles and what constitutes the work of a clinical child psychologist can take many forms. The following discussion is but a short list of important emerging topics for the field and next steps for research and practice.

Diagnostic developments

Determining the nature and form of mental illness in youth is one of the important functions for clinical child psychologists. To this end, professionals use two main tools for the general classification and organization of mental illnesses: The International Classification of Diseases (ICD-10) and the Diagnostic and Statistical Manual (DSM-IV). These classification and diagnostic systems are similar. The DSM is a proprietary product of the American Psychiatric Association and widely used in the US (although “cross-walk” translations of DSM diagnoses to ICD categories are required for reimbursement and data reporting). The ICD is widely available through the World Health Organization website and publications (World Health Organization, 2009). The ICD is mandated for use in member nations. The ICD chapters include classifications for mental and behavioral disorders including ones primarily for childhood and adolescence. Both systems are currently in the process of revision and work groups are meeting to present and discuss the latest evidence regarding the nature and form of mental illness. Issues under discussion involve developmental considerations such as continuity of child and adult disorders, clinical utility and research criteria, categories versus dimensions of diagnoses, multicultural perspectives, gender relationships, and disability and impairment related to psychopathological disorders. Clinical child psychologists and psychiatrists are involved in the process around the world.

Treatment developments

Research on the development of interventions for youth in the US has over the past 15 years focused primarily on the creation, evaluation, and dissemination of empirically based treatments (EBTs) (Steele, Elkin, & Roberts, 2008). The research on EBTs suggests that approaches such as cognitive-behavioral treatment and interpersonal therapy are effective in reducing depressive symptoms and that cognitive-behavioral treatments are effective in treating anxiety-related disorders. For externalizing problems, behavioral management training and behavioral therapy have produced effective improvements in the functioning of youth with conduct-related disorders. The next frontier for this promising line of research will be to address the applicability of known approaches to a wide variety of youth representing different cultural groups, to develop effective and systematic methods for dissemination of knowledge, and to continue to expand treatment for youth who present with multiple kinds of psychopathology.

Many countries are developing their own approaches to the prevention and treatment of mental health problems (Verhulst et al., 2003). For example, a large-scale violence prevention and intervention program was created in Medellin, Colombia, to address the risk of aggression in 8,900 youth (Duque, Klevens, Ungar, & Lee, 2005). Using weekly home visits and parenting workshops the authors sought to
improve communication, supervision, and consequences for youth who had significant markers of risk for externalizing problems. A recent survey of the literature reveals that intervention efforts to reduce or prevent the development of psychological problems is evident in many developed countries and that systematic approaches to treatment are less clear in underdeveloped countries.

In addition to the need for more research on treatment, it is important to remember that a psychological approach for understanding and remediating mental health treatment is not universally accepted around the world. Recently, *The Lancet* created a global mental health group and, in a series of papers over the past year, has detailed the epidemiological rates of mental illness and the need for effective mental health treatment around the world (Lancet Global Mental Health Group, 2007). Moreover, this group is charged with increasing awareness of global mental health issues as well as addressing accessibility to treatment for psychological conditions worldwide. Patel, Flisher, Hetrick, and McGarry (2007) summarized the epidemiological evidence of mental disorder in youth and found that, taken together, the worldwide estimates suggest that at least one out of every four to five young people will experience a mental disorder in any given year. Although data are not available yet to determine the rates in less developed countries, the available evidence suggests that the necessity for treatment is great and future research must address the global as well as the local need.

### Serious emotional disturbances

Children and adolescents with serious emotional disturbance (SED) are among the most challenging for families, schools, and psychologists (Jacobs, Randall, Vernberg, Roberts, & Nyre, 2005). These children present with severe impairments in psychological and behavioral functioning, with impact on scholastic achievement. They may exhibit a complex set of behaviors including disruptive behavior disorders, anxiety and mood disorders, psychosis, post-traumatic stress disorder, and cognitive/learning problems. They may receive concurrent multiple diagnostic labels and psychotropic medications. Children with SED are involved with many agencies such as law enforcement and juvenile justice, child protection and welfare, and mental and medical health. These youth often receive no or inadequate services in community or school settings.

Greater attention has been given in clinical child psychology to children with less severe problems than to those with poorer prognoses. Children with SED will confront their societies over time with more demanding behaviors. Research is urgently needed into etiological factors and preventive interventions. More scientific investigation must help create effective psychotherapeutic interventions in schools, outpatient and inpatient settings, and health care settings. A research agenda is needed into the effectiveness of psychoactive medication for the constellation of diagnoses subsumed in the SED category (Brown et al., 2008). Finally, clinical child psychologists need to investigate the optimal organization of service delivery for comprehensive attention to the needs of children with SED and their families (e.g., McDougall, Worrall-Davies, Hewson, Richardson, & Cotgrove, 2008).
Exposure to trauma is not unique to youth, but clearly the research supports the notion that youth are especially vulnerable to its effects (Kelleher et al., 2008). Exposure to violence is considered a public health issue and organizations like the Centers for Disease Control and the World Health Organization (WHO) have been on the forefront of the effort to address the impact of experiences like abuse, terrorism, and exposure to war in youth. Research and intervention efforts are primarily organized into: (a) etiology and surveillance of violence, (b) development of prevention programs, and (c) dissemination of best practices for prevention and treatment. In 2002, the WHO published the World Report on Violence and Health (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002) suggesting that not only is violence around the world increasing, but that the effects on the world’s youth suggest a growing epidemic of physical and mental health problems.

Future research needs to be vigilant regarding the study of trauma and youth health outcomes. Beyond documenting the rates of pathology associated with trauma, research is beginning to address and develop models of the relations between exposure to trauma and outcomes (Jackson, Kim, & Delap, 2007) so that the specific mechanisms that create and maintain pathology can be identified. Scientific testing of these models could identify mechanisms underlying the trauma-outcome link that could be fruitful targets for helping youth cope effectively with trauma.

Interdisciplinary research and practice

As recognized by leaders in National Institutes of Health (2007: p. 1) in the US, “scientific progress often comes at the interface of traditional boundaries.” Similarly, there is growing recognition that the best care of children and adolescents often necessitates effective multidisciplinary collaboration. These trends portend increasing need and opportunity for clinical child psychologists to collaborate with professionals from other disciplines in their research and practice. The growing emphasis on interdisciplinary research and practice is indicated by a number of recent developments such as the evaluation of multimodal treatments. Clinical child psychologists and other professionals must work together to evaluate psychosocial and pharmaceutical treatments alone and in combination. In the treatment of some youth, interdisciplinary care often extends beyond mental health professionals. The distinctive rise of subspecialty research and practice areas within clinical child psychology represents further evidence of the growing importance of interdisciplinary work. For example, the subspecialty area of pediatric psychology stands at the interface of children’s physical and mental health. As professionals who study and treat youth with health concerns, the work of pediatric psychologists necessitates collaboration with pediatricians and other health professionals, including nurses, nutritionists, and child life specialists. Similarly, the emerging fields of genomics (Tercyak, 2009) and clinical child neuroscience (South, Wolf, & Herlihy, 2009) represent specialty areas that are only possible through collaboration among professionals from a variety of fields including clinical psychology, developmental psychology, genetics, neurology, medicine, and bio-engineering.
Several challenges lie ahead for the practice of professional psychology, particularly as it relates to psychopharmacology. At the most basic level, additional research is needed to investigate the long-term efficacy and safety of pharmacological treatments for mental health disorders in children and adolescents (Brown et al., 2009), including investigations of the impact of pharmacotherapy on adaptive functioning and quality of life, and the safety, efficacy, and use of pharmacotherapy within diverse populations (APA Working Group, 2006). Further, comparisons between pharmacological and psychological treatments have typically been limited to tightly controlled efficacy studies, many of which do not assess the impact of the treatments as they are delivered in “real world” conditions. Effectiveness studies, which allow greater degrees of external validity, are needed to determine whether apparent treatment gains are realized when delivered under more typical clinical conditions.

As noted above, the use of pharmacotherapy for mental disorders is increasing in a number of (particularly Western) nations (e.g., Clavenna et al., 2007; Olfson et al., 2006; Mitchell et al., 2008; Parks et al., 2006). However, the field is also seeing a two point five- to eightfold increase in polypharmacy, or the practice of prescribing more than one medication to treat a disorder (Bhatara, Feil, Hoagwood, Vitiello, & Zima, 2004). Unfortunately, the research support for the use of polypharmacy with youth is scant and it is nonexistent regarding support for the use of more than two psychotropic medications concurrently (Safer, Zito, & dos Reis, 2003). Perhaps of greater concern, 45% of the medications prescribed for the treatment of emotional or behavioral problems in youth are not approved for use with children in the US (Naylor et al., 2007). Clearly, more research is necessary on the use of psychotropic medications with youth. Monitoring of short-term improvements must be paired with assessment of long-term effects on youth whose development may be more sensitive to the effects of medications.

At a different level, research is needed to evaluate practice patterns and sequencing of psychoactive medications relative to other modes of therapy. For example, Pelham (2008) recently reported that in samples of children with ADHD, receipt of medication prior to behavior therapy reduced participants’ willingness to engage in therapy. Conversely, receiving behavior therapy first reduced participants’ interest in receiving medication for symptom relief. The implication is that “multimodal treatments” for ADHD may be undermined by the relative timing of the pharmacologic and/or psychosocial components of the intervention. Whether and how this principle applies to other conditions and medications remains to be seen.

Professional psychology in Canada, the UK, and the US continues to struggle with the issue of prescription privileges for psychologists (RxP; Brehm, 2008; Lavoie & Barone, 2006), with convincing arguments on both sides. Although such a course is controversial, the APA Council of Representatives has adopted a general training curriculum for postdoctoral training in psychopharmacology, and the APA’s College of Professional Psychology has created an examination to be used in the evaluation of candidates’ competencies to prescribe medications (APA Practice Organization, 2007). Some jurisdictions in the US (i.e., the US Military, New Mexico, and Louisiana) currently grant limited RxP, and legislation to allow RxP has been intro-
duced in at least 20 other states in the US. Consistent with the need for research into the long-term outcomes resulting from psychoactive medications, research is needed to determine the degree to which RxP positively impact patient/client outcomes, particularly among children and adolescents.

This movement toward prescription privileges has been controversial. Regardless of where individual psychologists stand on the prescription privilege issue, a solid working knowledge of psychopharmacologic treatments is important for mental health professionals (APA Working Group, 2006; Brown et al., 2009). Because their traditional scope of practice typically involves assessment of children’s functioning in multiple contexts (i.e., family/home, school and peer), clinical child and adolescent psychologists are uniquely poised to improve upon multimodal treatment and assessment of children’s symptoms. In addition, mental health professionals who are familiar with the current treatment literature on psychoactive medications will be better able to help families make informed decisions about treatment options (APA Working Group, 2006).

Conclusions

Although our description of clinical child psychology has largely drawn on examples in the U.S. developments, we have tried to make clear that worldwide mental health needs of children, adolescents, and their families are enormous. International developments in clinical child psychology are invigorating in terms of the science and practice of applied psychology, but are uneven in availability. Formalization of the roles and functions of this specialty are progressing in different stages. The value of applied child psychology perspectives is becoming recognized in a diversity of settings for a range of presenting behavior problems. Further development of understanding of developmental psychopathology and evidence-based practice will be important foci for clinical child psychologists globally.

References

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