

PROFESSIONAL ROLES

JAMES H. JOHNSON, DAVID M. JANICKE, AND STEVEN K. READER

Given that this volume of the *Handbook of Clinical Psychology* focuses on children and adolescents, it seems fitting that a chapter be devoted to a discussion of the various professional roles assumed by psychologists who work with children and youth. While these psychologists are often referred to by various labels, such as clinical child psychologists and pediatric psychologists, professionals with other backgrounds, such as school psychologists, also work with children and adolescents.

Child-oriented psychologists vary in the nature of their professional training (clinical psychology, school psychology, developmental psychology, specialty-specific training in clinical child or pediatric psychology); theoretical orientation (behavioral, cognitive-behavioral, interpersonal, psychodynamic, humanistic); the degree to which they focus on research, clinical activities, or both; the nature of the professional activities they engage in (teaching, research, assessment, therapy, consultation, advocacy); the types of child or adolescent problems they work with (mental health problems, physical health problems, school-related difficulties); and the settings in which they work (universities, medical centers, children's hospitals, pediatric clinics, private practice, mental health centers, schools). Given the diversity of training, theoretical orientation, professional activities, types of problems addressed, and settings, it should not be surprising that these professionals often function in multiple roles and engage in a range of professional activities in the context of these roles.

This topic of professional roles is of special relevance given the rapid growth of clinical child and pediatric psychology in the past 25 years and the degree to which this growth has resulted in expanded role opportunities and, in some cases, significant changes in the nature of the activities engaged in by psychologists serving children and adolescents.

Roles and Role-Related Activities of Child-Oriented Psychologists

Before embarking on the task of highlighting the professional roles assumed by child-oriented psychologists, it is important to attempt to define

what is meant by the term “role” and differentiate this term from the professional activities associated with these roles.

Considering several dictionary definitions, the term role, as it used here, generally refers to a *consistent pattern of behavior* that is expected of someone based on his or her status or position in society (Merriam-Webster’s New Collegiate Dictionary, 11th ed.). From this perspective, functioning in the role of a clinical child or pediatric psychologist involves engaging in a pattern of professional behavior that is consistent with one’s prior training as a specific type of child health service provider. At the simplest level, the term “professional role” as applied to a clinical child psychologist can be best thought of as a general *construct* used to summarize the range of interrelated specialty-specific behaviors that are engaged in as one trained in clinical child psychology carries out his or her professional activities.

Closely associated with the term role is the pattern of specialty-specific professional activities, engaged in by the psychologist by virtue of his or her professional training, that define him or her as a specific type of health care professional. As regards the various roles of child-oriented psychologists, some function in the role of clinical child psychologist, and others function in the role of pediatric psychologist. Still others function in the role of school or applied developmental psychologist. Both clinical child and pediatric psychologists may engage in somewhat similar activities to a greater or lesser degree. For example, both may engage in assessment, intervention, consultation, research, or various other professional activities with children and families. But, while there may be some similarity in terms of the general types of activities engaged in, the roles may differ significantly in the way these activities are carried out, the problems and clinical populations dealt with, and the settings in which these professional activities take place.

As but one example, the clinical child psychologist’s activities might involve an interview and administering a well-chosen selection of psychological tests to assess for the presence of Attention-Deficit/Hyperactivity Disorder (ADHD) and possible comorbid conditions (e.g., learning disability, anxiety or depressive features), collaborating with a child psychiatrist in the treatment of the child’s core ADHD symptoms and using cognitive-behavioral interventions to treat the child’s diagnosed anxiety or depressive disorder, in a private practice or mental health clinic setting. In contrast, a pediatric psychologist’s assessment activities might entail interviews with the child and parent, consultation with the child’s physician and nursing staff, and behavioral observations at meal time to determine factors contributing to a 5-year-old’s frequent vomiting and failure to eat. Treatment might involve behavioral interventions designed to

teach the parent how to reward successive approximations to normal eating and avoid attending to statements of stomach upset and instances of vomiting. Other interventions might involve additional forms of reinforcement for increased caloric intake, as well as other contingencies following vomiting episodes, with such treatment taking place on a pediatric floor of a university-affiliated medical center. Thus, although both may engage in similar activities (e.g., assessment, consultation, intervention), the nature of the specific activities involved may differ depending on whether the clinician is functioning in the role of clinical child or pediatric psychologist.

It should also be emphasized that child-oriented psychologists may function in roles that represent a greater or lesser degree of specificity. For example, one clinical child psychologist may engage in a wide range of child-related professional activities such as assessment, therapy, teaching, and research, and another may function more specifically in the role of child psychotherapist. Likewise, a pediatric psychologist may function broadly in this professional role (e.g., working with children displaying both acute and chronic illnesses and engaging in a variety of child or adolescent consult-liaison activities) or may restrict his or her professional activities, as in the case of the pediatric psychologist whose work primarily involves conducting pretransplant evaluations with children and adolescents and working with children who have recently been transplanted (who may think of himself or herself as a pediatric transplant psychologist). Finally, whereas some clinical child or pediatric psychologists assume roles that involve varying levels of specialization, as described earlier, others simultaneously function in multiple professional roles (e.g., administrator *and* clinical child psychologist), each of which may vary in terms of breadth and complexity and relationship to one another.

Despite general agreement that there is an insufficient number of adequately trained child-oriented psychologists to meet the mental health needs of children, there is an increasingly large number of psychologists who, by virtue of their training and/or professional experience, currently define themselves as clinical child or pediatric psychologists and engage in a wide range of professional activities with children, youth, and families. In the sections to follow we provide an overview of the diverse range of professional activities and functions that are associated with these professional roles. This is followed by a brief commentary on the role of school psychologists, as they also often provide clinical services to children and adolescents.

Clinical Child and Adolescent Psychology

The area of clinical child and adolescent psychology represents a rapidly growing area of professional psychology. A capsule summary of the multiple roles and functions played by professionals working in this area can be seen in the ways this specialty has been self-defined.

The following definition of the specialty of clinical child psychology has been provided in the archival description of the specialty submitted to the Commission for the Recognition of Specialties and Proficiencies in Professional Psychology (1998), upon the formal recognition of the specialty by the American Psychological Association in 1998:

Clinical Child Psychology is a specialty of professional psychology, which brings together the basic tenets of clinical psychology with a thorough background in child, adolescent and family development and developmental psychopathology. Clinical child and adolescent psychologists conduct scientific research and provide psychological services to infants, toddlers, children, and adolescents. The research and practices of Clinical Child Psychologists 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 socioemotional adjustment, cognitive development, behavioral adaptation, and health status of children and adolescents. There is an essential emphasis on a strong empirical research base recognizing the need for the documentation and further development of evidence-based assessments and treatments in clinical child and adolescent psychology.

Of special note in this definition is that the training of clinical child psychologists represents (or at least should represent) a blending of developmental psychology and clinical psychology in a framework that places emphasis on the developmental aspects of psychopathology, which has as its focus understanding the mechanisms of development and behavior change. Central to the focus on developmental psychopathology is the belief that the study of atypical development can add to the understanding of normal development and, conversely, that the methods and approaches used in normative developmental science can shed light on

the etiology, course, and outcome of psychological disorders. It is this focus on training in child, adolescent, and family development *and* developmental psychopathology, along with the tenets of clinical psychology, that distinguishes the well-trained clinical child psychologist from the general clinical psychologists who happen to also work with children. It needs to be emphasized that clinical child psychology is more than just the knowledge of clinical psychology methods applied to children.

This definition also highlights the fact that clinical child psychologists work with a wide range of individuals, displaying a wide range of difficulties, through the application of a wide range of assessment and treatment methods. In the sections to follow we elaborate on these topics.

Populations Served

Clinical child psychologists work with children of all ages, ranging in age from infancy and childhood through the adolescent years, and their families. Nevertheless, children of some ages tend to be seen more frequently in clinical practice. For example, Tuma and Pratt (1982) found that the most common age groups seen were children between the ages of 5 and 10 (29%). The next most common age groups seen were adolescents 14 to 18 (23%), preadolescents 11 to 13 (22%), and preschoolers below 4 (13%). These child clinicians also reported seeing a significant number of adults, with 38% reporting working with patients over age 18.

Clinical child psychologists work with children who display a wide range of problems. Unlike the pediatric psychologist, who is likely to focus more on child and adolescent health-related problems, the clinical child psychologist is likely to focus more on mental health difficulties, although the distinction between the activities of clinical child and pediatric psychologists can be blurred on occasion. Problems that clinical child psychologists are often called on to assess and treat can range from easily managed problems such as bedwetting and soiling and helping parents manage a child with difficult temperament to internalizing problems such as anxiety and depression and externalizing conditions such as Oppositional Defiant Disorder, Conduct Disorder, and ADHD. Clinical child psychologists also see children with learning disabilities, as well as those with severe psychological disorders such as mental retardation, pervasive developmental disorders, Schizophrenia, and pediatric Bipolar Disorder. Child clinicians are often called on to deal with problems that may or may not be defined in terms of a specific diagnosis. Here, examples include working with children of divorce, those who have been vicariously exposed

to marital abuse, those who have experienced physical or sexual abuse, or those who have been impacted by hurricanes or other natural disasters.

Practice Settings

For those clinical child psychologists engaging in applied clinical work, practice settings include private practice, children's residential treatment centers, mental health clinics, and public health agencies, schools, medical school clinics. Those whose primary role is university teaching (often in departments of psychology) may engage in part-time clinical activities in the university setting. As will be seen later, child clinicians who are more health-oriented often practice in children's hospitals or sometimes in private practice pediatric settings.

Some figures regarding clinical practice settings have been provided by Tuma and Pratt (1982) in their survey of 358 clinical child psychologists who were members of what is now the Society of Clinical Child and Adolescent Psychology. The data provided by this survey suggest employment in a wide variety of work settings, with most respondents working in more than one setting. Most reported working in medical school settings, primarily in departments of pediatrics and psychiatry (51%). The second largest work setting was private practice (44%). Other work settings included graduate departments of psychology (21%), schools (15%), mental health centers (11%), child guidance centers (9%), children's hospitals (9%), and general hospitals (5%). A much smaller number were employed in residential and state hospitals.

More recent survey findings regarding practice settings of 162 child-oriented psychologists (including clinical child and pediatric psychologists and school psychologists) have been provided by Cashel (2002). Of these clinicians, 29% reported working in a medical center or other hospital settings. Other settings included college or university (22%), school system (17%), outpatient clinic (11%), and community mental health center (1.9%). As in the Tuma and Pratt (1982) survey, many of the respondents in this study worked in multiple settings, with approximately 31% working exclusively in private practice.

Taken together, these findings suggest that, across time, the primary practice settings of clinical child psychologists appear to be medical schools and hospitals, private practice, and university settings where the child clinician likely also plays a major role in clinical training and supervision. In other settings the numbers are considerably smaller, with surprisingly few clinical child psychologists working in community mental health centers.

Theoretical Orientations

Of interest is the theoretical orientation of clinical child psychologists, especially as this may show changes over time. This issue is of relevance to clinical practice as approaches to both assessment and treatment are usually, to some degree, tied to the theoretical orientation of the clinician. And, to the extent that the primary theoretical orientation of clinicians changes over time, this is likely to have implications both for the role functions of the clinician and for the type of training those aspiring to be clinical child psychologists will need to meet changing role functions.

Data relevant to the issue of theoretical orientation have been provided by the two surveys cited earlier. In the Tuma and Pratt (1982) survey, 28% of the 358 clinical child psychologists surveyed classified themselves as having a psychodynamic orientation, 25% described their orientation as behavioral, and 4% described their orientation as humanistic-existential; the remainder described their orientation as eclectic.

These findings regarding theoretical orientation can be contrasted with the findings 20 years later (Cashel, 2002). Here, the majority of child clinicians described themselves as cognitive-behavioral (52%), and an additional 7% described themselves as having a behavioral orientation. Thus, almost 60% of the respondents endorsed either a behavioral or cognitive-behavioral orientation. Respondents endorsing other orientations included psychodynamic (9%) and interpersonal (5%), with 25% labeling themselves eclectic.

These findings to suggest that during the 20-year period between 1982 and 2002, the theoretical orientations of child clinicians have changed significantly, with a vastly increased number of clinical child psychologists now endorsing a behavioral or cognitive-behavioral theoretical framework (and presumably assessment and treatment methods based on this framework), with a concurrent reduction in clinicians claiming a psychodynamic orientation. These findings would seem to be consistent with the increasing focus on both evidence-based assessment (Kazdin, 2005; Mash & Hunsley, 2005) and evidence-based child treatment methods (Ollendick & King, 2004) that currently characterize clinical child psychology.

Role-Related Professional Activities

As suggested earlier, functioning in the role of clinical child psychologist can involve participating in an extensive array of professional activities that serve to define the specialty. Among the most prominent of these activities are assessment, treatment, and conducting research on a

wide range of topics relevant to children and families. A sizable number of clinical child psychologists, especially those employed in academic settings, function as teacher and clinical supervisor, in addition to their involvement in research and perhaps part-time clinical work. A somewhat smaller but still significant number of clinical child psychologists also work in the area of prevention and engage in consultation activities. In the sections to follow we highlight the work of clinical child psychologists in a number of these areas and, where relevant, the ways these activities have changed as a function of the evolution of the specialty.

Assessment Activities

Assessment has long been a major professional activity of clinical child psychologists of various theoretical orientations, and for some practitioners, providing psychological assessments for children and adolescents is their primary professional activity. Indeed, assessment is one of the most frequently engaged in professional activities of psychologists working with children. Assessment can involve open-ended interviews, the use of intelligence tests, and the assessment of academic achievement, adaptive behavior, visual-motor functioning, as well as the use of projective tests and various questionnaires to assess personality dynamics and what are thought to be enduring personality characteristics. Assessment can also involve the use of more structured interviews to assess specific symptoms of psychopathology, the use of objective behavior problem checklists designed to assess behavioral characteristics of the child, and approaches to assess overt behaviors and the factors that elicit (antecedents) and maintain (consequences) these behaviors in the natural environment. Also commonly used are measures designed to assess aspects of parenting stress and family environment as well as other variables thought to be relevant to the functioning of the child and his or her family. Given that assessment is essential to making an accurate diagnosis of childhood problems and is usually assumed to be an essential prerequisite to the development of an appropriate treatment plan, it is not surprising that clinical child psychologists have typically devoted a significant amount of time to assessment-related activities.

It is noteworthy that the nature and, to some extent, the *type* of involvement by clinical child psychologists in assessment activities has changed over the years. For example, in the Tuma and Pratt (1982) survey, the average amount of professional time spent in assessment activities with children, adolescents, parents, and families was 28%, as compared to 41% of their time being devoted to treatment-related activities. According to the

authors, assessment and treatment were the two primary professional activities engaged in by these clinical child psychologists.

These authors also provided information regarding the nature of the assessment measures used by this sample of clinical child psychologists. Here, 83% reported using intelligence tests, 54% reported using the Rorschach, 53% the Thematic Apperception Test (TAT), and 60% figure drawings. A total of 53% indicated that they used the Bender Gestalt test, 51% indicated that they used achievement tests, 18% said they used the Minnesota Multiphasic Personality Inventory (MMPI), 17% reported use of sentence completion tests, and only 13% reported the use of behavioral assessment measures. As can be seen, apart from the use of intelligence and achievement tests, the child clinicians in this survey appeared to rely heavily on the use of projective tests of various types, to the exclusion of more behaviorally oriented assessment measures.

These assessment preferences can be compared to those found by Cashel (2002), where respondents reported spending 27.3% of their time conducting psychological assessments, supporting the view that assessment continues to be a major professional activity engaged in by child-oriented clinicians. When these respondents were asked to indicate their use of various assessment measures, the Wechsler Intelligence Scale for Children was, by far, the most frequently used measure. When asked to rank other assessment approaches by order of importance, the clinical interview was ranked as most important, followed by behavioral observations, behavior ratings, self-report inventories, and, finally, projective tests (Cashel, 2002).

These findings suggest that although some clinical child psychologists still use the Rorschach, the TAT, figure drawings, and other projective approaches, the perceived value of these measures has declined, while behaviorally focused assessment measures have become increasingly more popular and appear to be more highly valued by today's clinical child psychologist. This trend parallels the increasing focus on evidence-based assessment, where the preference is not only for useful assessment methods that are supported by research findings but also for measures that are useful in monitoring treatment effectiveness (Kazdin, 2005). Not only has the focus on evidence-based practice likely had some impact on child assessment practice, but the nature of child assessment has also been impacted by managed care. Today there seems to be less of a focus on the use of standardized test batteries and more on assessment methods relevant to specific problem areas. In the Cashel (2002) survey, it was found that the utilization of many previously popular test measures such as the Rorschach and MMPI seems to have declined due to decreased reimbursement for such measures. Although assessment continues to be a major professional activity of clinical child psychologists, the nature of the assessment

measures used by child clinicians today is increasingly moving away from subjective measures and projective techniques and toward more objective, behaviorally focused, and more empirically supported assessment measures.

Intervention Activities

Along with assessment, providing treatment for children, adolescents, and their families is one of the defining professional activities of clinical child psychologists. Indeed, many clinical child psychologists in private practice function primarily in the role of child and family therapist.

It can be recalled that Tuma and Pratt (1982) found that, on average, clinical child psychologists spent over 40% of their professional time engaging in treatment-related activities with children, adolescents, and families. The types of therapy engaged in included counseling with parents, play therapy, individual psychotherapy, behavior therapy, and family therapy. Not surprisingly, the type of therapy varied as a function of the child's age, with parent counseling, play therapy, and behavior therapy being used by 63%, 44%, and 36% of the therapists, respectively. With school-age children, play therapy (53%), family therapy (37%), and individual psychotherapy (35%) were the most widely used approaches, with fewer therapists endorsing parent counseling and behavior therapy (29% each). Individual psychotherapy (74%), family therapy (46%), and counseling with parents (32%) were the most widely used therapeutic approaches with adolescents.

Today, clinical child psychologists engage in a wide range of interventions with children and families. These continue to include many of the traditional approaches to child treatment described by Tuma and Pratt (1982; e.g., parent counseling, play therapy, individual psychotherapy, family therapy, behavior therapy) but with perhaps a much greater focus on behaviorally oriented parent training approaches and behavior management approaches applied in the school, community, and health care settings. Today, we also see the widespread use of more recently developed cognitive-behavioral approaches to treatment that have been found useful in dealing with children and adolescents displaying psychological difficulties such as anxiety, depression, anger management, and Obsessive-Compulsive Disorder (O'Donohue, Fisher, & Hayes, 2003), as well as multimodal interventions for children and adolescents exhibiting complex problems.

This movement toward the use of more behavioral and cognitive-behavioral child therapies appears due to two interrelated factors: the changing theoretical orientation of child-oriented clinicians and the coming

of age of evidence-based treatments. As noted earlier, 25 years ago the two predominant theoretical orientations of clinical child psychologists were psychodynamic and behavioral, with somewhat more child clinicians endorsing the psychodynamic perspective and likely engaging in treatments that were in line with their orientation (Tuma & Pratt, 1982). More recent surveys suggest that almost 60% of child-oriented clinicians now define themselves as having cognitive-behavioral or behavioral orientations, with fewer than 10% identifying themselves with the psychodynamic perspective (Cashel, 2002). This represents a dramatic shift in theoretical perspective that, along with the increased focus on the development of evidence-based treatments, likely relates to the increased use of behaviorally related approaches to intervention that we see today.

Teaching and Training Activities

As was briefly noted earlier, surveys conducted 20 years apart by Tuma and Pratt (1982) and Cashel (2002) have both found that a sizable number of clinical child psychologists work in some type of academic setting. Both found that approximately 20% worked in college and university settings, often in graduate departments of psychology. Likewise, both found that many worked in medical school settings (51% in the Tuma and Pratt survey and 29% in the Cashel survey). Employment was usually in departments of pediatrics or psychiatry.

Clinical child psychologists employed in these settings are frequently involved in training of some type. In university departments of psychology, where the academic training of clinical child psychologists often takes place, teaching can take several forms. It can involve teaching basic psychology courses (e.g., introductory psychology, personality, abnormal psychology) or teaching academic courses relevant to specialty training (e.g., developmental psychology, developmental psychopathology, child assessment, child treatment, evidence-based practice). Teaching in this setting can also involve a supervisory role in the context of various clinical practica, where the primary focus is on helping the psychology trainees develop important conceptual and clinical skills. Importantly, teaching and mentoring may also take place in the context of the student's research training, which, ideally, should at some point involve research with clinical populations so the trainee can learn how clinical knowledge can inform research and how good clinical research can inform clinical practice.

For those clinical child (or pediatric) psychologists working in medical schools, teaching formal didactic courses may be less common than teaching seminars relevant to aspects of clinical practice and the

clinical supervision of trainees (e.g., interns, postdoctoral fellows, psych techs). Not infrequently, psychologists working in this setting are asked to contribute to the behavioral science curriculum of medical students or to coteach courses such as “Introduction to Patient Evaluation,” which are often designed to help medical students learn clinical interviewing and relationship-enhancement skills that will serve them well as professionals working with patients.

The teaching possibilities for clinical child psychologists are many. They are also important, as the quality of training that future clinical child psychology (or other) trainees receive is likely related not only to the trainees’ ultimate level of professional competence but also to the quality of care that the trainees provide children and families upon completion of training.

Research Activities

Over the years, the predominant model of graduate training for clinical psychologists has been the Boulder or scientist-practitioner model (Raimy, 1950; Shakow, 1948). This model has also been repeatedly endorsed as the preferred model for training both clinical child and pediatric psychologists. As the basic premise of the scientist-practitioner model is that the clinical child psychologist should be trained as both a scientist and practitioner, it is not surprising that clinical child psychologists often adopt the roles of both researcher and practicing clinician. Although relatively few clinical child psychologists in private practice devote a significant amount of time to research, adoption of these dual roles is not at all uncommon for clinical child psychologists who work in academic or medical school settings, where they are likely to also function in the roles of teacher and supervisor.

The range of research topics addressed by clinical child psychologists is too broad to cover here but includes research related to the development and validation of assessment measures (e.g., structured and semi-structured interview measures, intelligence and achievement measures, measures of development and adaptive behavior, behavior problem checklists, personality questionnaires, computer-based assessment measures); research related to the development and documentation of the efficacy and effectiveness of various approaches to child treatment; research related to the etiology, correlates and developmental course of various types of child psychopathology; and research on factors that may place the child at risk for later psychopathology (e.g., genetic factors, difficult temperament, divorce, abuse), just to name a few areas.

One area that deserves specific mention relates to efforts to identify empirically supported psychosocial treatments for children and adolescents. This work was an outgrowth of the evidence-based practice movement in medicine (Sackett, Richardson, Rosenberg, & Haynes, 2000), specifically the efforts of the Society of Clinical Psychology's (APA, Division 12) Task Force on Promotion and Dissemination of Psychological Procedures (Chambless, 1996; Chambless & Hollon, 1998).

This task force, which began its work in 1995, attempted to develop criteria for determining psychological and behavioral approaches to treatment that were well supported by research findings. Research support was to be determined by studies of treatment efficacy, with significant treatment-related change being documented in well-controlled research investigations, emphasizing internal validity. Using the criteria adopted by the task force, it was possible to categorize psychosocial treatments of various types into two efficacy-related categories: well-established treatments and probably efficacious treatments.

Here, to qualify as a "well-established treatment", two adequately designed group studies (from different researchers) demonstrating the treatment to be significantly better than a pill, placebo or other treatment or equivalent to an already established treatment was required. Alternatively, designation as a "well-established treatment" could result from a series of > 9 well controlled single-subject design studies that compared the experimental treatment to some other treatment. In both instances, the nature of the samples had to be adequately described and the treatment based on a treatment manual.

Treatments could qualify as "probably efficacious" based on 1) two well controlled studies that demonstrated the treatment to be superior to a no-treatment control group or, 2) one or more studies that met criteria for "well-established treatments" (see above) but conducted by the same researcher. . Similar to the above criteria for "well-established treatments", probably efficacious treatments could also be documented via a series of (here > 3) single-subject design studies that met the well-established treatment criteria. Again, treatment was to be based on a treatment manual and sample characteristics had to be clearly specified (Chambless & Hollon, 1998) .

As Ollendick and King (2004) have noted, using criteria such as these, the task force was able to identify a total of 25 largely adult-focused treatments that were judged to be empirically supported to a greater or lesser degree (18 well-established treatments; 7 probably efficacious treatments). Of these, only three treatments for children were identified as

well-established treatments, and one met criteria for a probably efficacious treatment. These three treatments were behaviorally oriented interventions used with children with developmentally delays, enuresis and encopresis, oppositional-defiant behavior (well-established treatments), and tics (probably efficacious).

Given that the initial focus of this task force was largely on adult-related treatments, the Society of Clinical Psychology and the Section on Clinical Child Psychology (Division 12; Section 1, presently Division 53 of the American Psychological Association), both subsequently developed task forces to determine empirical support for various approaches to child and adolescent treatments. The combined efforts of these two groups provided varying levels of support for a number of additional child treatments (Lonigan, Elbert, & Johnson, 1998). As Ollendick and King (2004) have noted, several other efforts to delineate the degree of support available for various child treatments, using somewhat similar research criteria, have also been undertaken. Here, they highlight the work of Nathan & Gorman, (1998) and Roth, Fonagy, Parry, & Target(1996). Taken together, these efforts highlight a range of child treatments that have been judged as well-established or probably efficacious (Chambless & Ollendick, 2001; Ollendick & King, 2004). These treatments are listed in Tables 5.1 and 5.2.

Table 5.1

Examples of Well-established Child Treatments

PROBLEM OR DISORDER	TYPE OF TREATMENT
Attention-Deficit/Hyperactivity Disorder	Behavioral parent training
	Classroom behavior modification
Anxiety disorders	None
Autism	None
Depression	None
Enuresis	Behavior modification
Encopresis	Behavior modification
Obsessive-Compulsive Disorder	None
Oppositional Defiant Disorder/ Conduct Disorder	Behavior parent training
	Functional family therapy
	Videotaped modeling
	Multisystemic therapy
Phobias	Graduated exposure
	Participant modeling

	Reinforced practice
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Adapted from “Empirically Supported Treatments for Children and Adolescents: Advances Toward Evidence-Based Practice” (p. 8), by T.H. Ollendick and N. J. King in *Handbook of Interventions that Work with Children and Adolescents: Prevention and Treatment*, P. M. Barrett and T. H. Ollendick (Eds.), New York: Wiley.

Table 5.2

Examples of Probably Efficacious Child Treatments

PROBLEM OR DISORDER	TYPE OF TREATMENT
Attention-Deficit/Hyperactivity Disorder	Cognitive-behavior therapy (CBT)
Anxiety disorders	CBT
	CBT + family anxiety management
Autism	Contingency management
Depression	Behavioral self-control therapy
	Cognitive-behavioral coping skills
Enuresis	None
Encopresis	None
Obsessive-Compulsive Disorder	Exposure/response prevention
Oppositional Defiant Disorder/Conduct Disorder	Anger control training with stress inoculation
	Anger coping therapy
	CBT
	Assertiveness training
	Delinquency prevention program
	Parent-child interaction therapy
	Problem-solving skills training
	Rational emotive therapy
	Time out + signal seat treatment
Phobias	Imaginal desensitization
	In vivo desensitization
	Live modeling
	Filmed modeling
	CBT

Adapted from “Empirically Supported Treatments for Children and Adolescents: Advances Toward Evidence-Based Practice” (p. 8), by T. H. Ollendick, and N. J. King, 2004, in *Handbook of Interventions that Work with Children and Adolescents: Prevention and Treatment*, P. M. Barrett and T. H. Ollendick (Eds.), New York: Wiley.

Considering the empirical work necessary to provide research findings sufficient to warrant the categorization of treatments as well-established or probably efficacious, it is apparent that the efficacy of psychological treatments for children and adolescents is a major area of research by clinical child psychologists. Although lagging behind research related to treatment, the developing focus on evidence-based assessment (Mash & Hunsley, 2005; Kazdin, 2005) is also rapidly becoming an active area of research focus for clinical child psychologists.

Prevention Activities

Many psychologists focus on ways of treating problems already displayed by the child, adolescent, or family; the focus of other clinical child psychologists is on ways of preventing the initial development of childhood disorders (primary prevention) and/or on the early detection of problems so as to decrease the duration of the problem and minimize its effects (secondary prevention). A third form of prevention (tertiary prevention) is designed to minimize the impact of an already existing problem or disorder; in many ways, this can be equated with therapy.

Examples of primary prevention include programs designed to reduce teenage pregnancy and/or risky sexual behavior, programs designed to enhance seatbelt or car seat usage, and child-proofing homes to prevent unintentional injuries. Also included are programs designed to prevent substance abuse and family interventions to prevent child abuse in high-risk families.

Examples of secondary prevention include programs such as those designed to detect autism in very young children so that effective behavioral treatments can be used to teach social and language communication skills. Another example is the Early Head Start program, which is designed to provide early education, health, and family support services for at-risk children up to age 3 from low-income families (Raikes & Love, 2002). Research has found that children benefit from this program in terms of increased cognitive development, more intellectually stimulating home environments, and the development of better paternal parenting skills (McNeil & Bernard, 2003).

Justifiably most often thought of as treatment, an excellent example of tertiary prevention is the use of parent-child interaction therapy (Brinkmeyer & Eyberg, 2003) to reduce disruptive behavior in preschool children with oppositional-defiant behavior, with the goal of preventing the long-term negative outcomes of adult antisocial behavior.

Work in the area of secondary prevention (early intervention) has been demonstrated to be of clear importance and to be of documented value in minimizing some of the negative impacts of childhood problems that, if left untreated, would likely result in negative long-term outcomes. Unfortunately, inadequate funding of primary prevention programs has left the potential value of many such programs unrealized (Boles, Mashunkashey, & Roberts, 2003). With increased levels of federal funding for the development and dissemination of such programs, work in the area of primary prevention could become a more attractive professional activity for clinical child psychologists.

The Training of Clinical Child Psychologists

Over the years there has been a dramatic increase in the number of clinical child psychology training programs, which has been prompted, in part, by the shortage of a sufficient number of adequately trained psychologists to meet the mental health needs of children (Knitzer, 1982). In the 1976–1977 edition of the American Psychological Association's *Graduate Study in Psychology*, only eight graduate programs self-identified as offering specialty training in clinical child psychology (Johnson, 2003). A survey of graduate training programs in 1982 was able to identify only 15 doctoral programs that provided clinical child specialty training (Roberts, 1982). By 1995, the Directory of Graduate Programs in Clinical Child/Pediatric Psychology (Tarnowski & Simonian, 1995) listed more than 100 programs in the United States and Canada that *self-reported* offering training in clinical child or pediatric psychology, although many of these would likely not meet strict criteria for a formal training program. Indeed, it seems likely that the number of graduate training programs offering quality specialty training in clinical child psychology is well below this number.

Given the need for *adequately trained* clinicians to meet the mental health needs of children *and* the increasing number of programs offering training in clinical child and pediatric psychology, considerable attention has been given to developing training guidelines to ensure adequate preparation of those entering the field. Over the years, three efforts in this regard are especially noteworthy.

First was the work of a task force of the APA Division of Child Youth and Family Services (Division 37), which proposed initial general guidelines (academic coursework, research experiences, and applied training in assessment and therapy) for training psychologists for working with children, youth, and families (see Roberts, Erickson, & Tuma, 1985). This work was followed by the national conference on “Training Clinical

Child Psychologists,” held at Hilton Head, South Carolina, in May 1985. Here, participants, who were leaders in the fields of clinical child and pediatric psychology, endorsed the general recommendations of the Division 37 Task Force and a scientist-practitioner model of training that emphasized training clinical child psychologists to function both as scientist and clinician and agreed on a range of other recommendations for clinical child training at the graduate, internship, and postdoctoral levels (Johnson & Tuma, 1986; Tuma, 1985).

A more recent attempt to integrate and elaborate on the Hilton Head conference guidelines resulted from the efforts of a National Institute of Mental Health Center for Mental Health Issues Task Force, which held a subsequent training conference at the University of Kansas in 1993. The results of these efforts, detailed by Roberts et al. (1998), represent an elaborate and well-considered framework for the professional training of individuals desiring to work with children and families. It was recommended that trainees be exposed to a wide range of didactic and applied training experiences in (a) life span developmental psychology; (b) life span developmental psychopathology; (c) child, adolescent, and family assessment; (d) intervention strategies; (e) professional, ethical, and legal issues pertaining to children, youth, and families; (f) research methods and approaches to system evaluation; (g) issues of diversity; (h) prevention, family support, and health promotion; (i) the role of multiple disciplines and service delivery systems; (j) social issues affecting children, youth, and families; and (j) specialized applied experiences in assessment, intervention, and consultation.

These recommendations indicated that clinical training in these areas should be designed to progress sequentially from simple exposure to the development of expertise in various areas, that they should involve structured research experiences relevant to the specialty, and that internship training should build on predoctoral training and provide a foundation for postdoctoral work. This framework appears to provide an excellent foundation for clinical child specialty training. Building on these guidelines, additional training recommendations related specifically to pediatric psychology training have been outlined by Spirito et al. (2003).

A significant issue in clinical child psychology training is that, at present, there are few quality assurance mechanisms to ensure that graduate programs purporting to offer specialty training do, in fact, offer training consistent with recommendations repeatedly endorsed by professional organizations representing the specialty. This is, in part, due to the fact that historically there has been no mechanism for the accreditation of specialty programs apart from clinical, counseling, and school psychology. Thus, although graduate programs in these areas are required to conduct self-

studies and meet APA Committee on Accreditation standards to initially get or maintain accreditation, there are currently no provisions to ensure that clinical training in specialty tracks (where most of clinical child training takes place) is consistent with existing specialty training guidelines. It is clear that many existing clinical child psychology training programs provide quality graduate education in this area, as evidenced by a strong clinical child training faculty, a formal sequence of required clinical child training experiences (that are consistent with specialty training guidelines), and their having a strong track record of turning out successful clinical child psychologists. Quality assurance mechanisms are necessary to ensure that all programs purporting to offer clinical child training meet these standards.

Clinical Child Psychology: Present and Future

Clinical child psychology, along with pediatric psychology, has grown rapidly over the past several decades. Since the 1960s, when the first interest groups related to clinical child psychology were organized, the field has grown in the number of professionals identified with the area and in the number of graduate programs designed to train clinical child psychologists. Likewise, as noted, the area has developed clinical training guidelines in an initial attempt to ensure that those trained in the area are trained well.

After many years of being viewed as a subspecialty of clinical psychology, clinical child psychology has now been formally recognized as a separate specialty in professional psychology, and the primary organization representing the area, the Society of Clinical Child and Adolescent Psychology, has evolved from being a section of the APA Division of Clinical Psychology to being an APA division in its own right, as has the Society of Pediatric Psychology. In the short time since its inception, research productivity of the members of the specialty has grown at an ever-increasing rate. Much of this research has been published by two journals maintained by these divisions, the *Journal of Clinical Child and Adolescent Psychology* and the *Journal of Pediatric Psychology*, which have grown from humble beginnings to currently enjoying the status of first-rate psychology journals. Cutting-edge research in the area of clinical child psychology is also regularly presented at the biannual Kansas Conference on Clinical Child and Adolescent Psychology, and current research in the area of pediatric psychology is presented at the biannual National Conference on Child Health Psychology.* The growth of the area is also highlighted by the fact that it is now possible for evidence of excellence in clinical child practice to be recognized through specialty

board certification in clinical child psychology through the American Board of Clinical Child and Adolescent Psychology.

As suggested in the formal petition to the APA for specialty recognition in 1998, the area of clinical child psychology has indeed become a “well-developed, legitimate, and formally recognized area of clinical and research specialization, characterized by the development of an ever increasing body of specialized knowledge and a vibrant, diverse, and specialized area of practice” (Commission for the Recognition of Specialties and Proficiencies in Professional Psychology, 1998, p.2). Given the rapid growth of the specialty during the past 20 to 25 years, questions arise as to where the specialty of clinical child psychology will go in the future. Here, change and advancement are likely on several fronts.

First, it seems likely that the evolving nature of the field will bring about significant changes in the practice of clinical child psychology in the years to come and perhaps result in new and different role functions for those identified with this area. As noted earlier, it appears that clinical child psychology has begun to experience a significant shift in the theoretical orientation of new clinical child psychologists coming into the field. There is clear movement toward an increasing number of practitioners with behavioral and cognitive-behavioral theoretical orientations and fewer clinical child psychologists with a predominantly psychodynamic orientation. Given this trend, in the future we will likely continue to see a de-emphasis on training in projective techniques and other more subjective assessment measures and an increased emphasis on more objective and evidence-based assessment measures. This is likely to be accompanied by a corresponding training emphasis on more evidence-based treatments for childhood disorders, which at this point seem to be interventions that are primarily behavioral or cognitive-behavioral in nature, although future research may well provide empirical support for other child treatments as well. These already evident trends in clinical training will likely also be reflected in the clinical practice of those clinical child psychologists entering the workforce. It is also likely that the impact of managed care will continue to influence clinical practice in terms of assessment and treatment approaches as evidence-based assessment and treatment methods are likely to become increasingly favored for reimbursement.

Consistent with these projections, it is safe to predict that the next several years will see an increased focus on clinical child psychology research related to various aspects of evidence-based practice. This will likely include expanded efforts in researching evidence-based treatments for children and adolescents, including treatments other than those based on behavioral and/or cognitive-behavioral principles, and increased research

focus on evidence-based assessment as well as research on the *integration* of evidence-based assessment and evidence-based treatment methods.

As regards child and adolescent treatment we can also expect to see a significant increase in research on the effectiveness of those child treatments that have been determined to be efficacious. It is clearly important to conduct research to document significant treatment effects in the research setting; it is also essential to document the effectiveness of these treatments in applied clinical settings. This research on effectiveness is essential and will likely become a major focus of child treatment research in the near future. Related to the issue of effectiveness, one can safely predict an increasing focus on finding ways of disseminating empirically supported treatments so they are likely to be used in clinical practice as well as researching ways of individualizing manualized treatments to ensure treatment fidelity while also making them more flexible and hence more palatable to practitioners (Kendall & Beidas, 2007). Advances in this area of research and the increased dissemination of evidence-based approaches to treatment are likely, over time, to have a significant impact on the role functions of clinical child practitioners in terms of their increasing reliance on empirically based methods of treatment. This would be a very positive outcome for children.

The changing roles of clinical child psychologists have also been highlighted by Prinstein and Roberts (2006) who have noted that, upon completing their graduate training, new clinical child psychologists are increasingly obtaining positions in new settings such as schools, primary care, and corporations and that involve new role-related activities such as consulting, public policy, program evaluation, and the supervision of non-psychology health care professionals. Regarding this trend, Prinstein and Roberts suggest that significant modifications of professional training will likely be needed to prepare clinical child psychologists for assuming these new employment opportunities and diverse professional roles in the future.

Pediatric Psychology

Primary to the science and practice of pediatric psychology is an emphasis on health- and illness-related issues. More specifically, “pediatric psychology is a field of science and practice that addresses a range of physical, psychological, developmental, health, and illness issues affecting children and their families” (Roberts, Mitchell, & McNeal, 2003, Page 3). This often involves working with children, and their families, who are struggling with chronic (cystic fibrosis, asthma, diabetes) or acute (enuresis, abdominal pain, headaches) health conditions. Compared to

clinical child psychologists, pediatric psychologists are also more frequently involved in prevention and health promotion activities, such as promoting more healthful lifestyle behaviors and practices. Some psychologists who work with pediatric populations on health-related issues prefer to be referred to as child health psychologists. Those who differentiate between the two terms note that the term pediatric psychologist is more often associated with psychologists who focus on treatment of children with chronic health conditions, whereas child health psychologist often denotes a wider scope of practice, including work with acute and chronic health conditions, as well as general prevention and health promotion. However, for the purposes of this chapter, we use these terms interchangeably.

Practice Settings

There are a wide variety of settings in which pediatric psychologists practice their craft. The practice of pediatric psychology originated in inpatient medical centers dedicated to the treatment of disease and illness (Roberts et al., 2003). A recent survey of the members of the Society for Pediatric Psychology, Division 54 of the APA, found that pediatric psychology is still primarily a hospital-based field, with a majority (63%) of pediatric psychologists working in hospital settings (Opipari-Arrigan, Stark, & Drotar, 2006). Practice in inpatient settings often involves consultation services and treatment of children exhibiting less than optimal adjustment to illness or illness management behavior. Carter and colleagues (2003) completed a case-controlled study examining the nature of referrals to pediatric consultation and liaison service in 104 children. Reasons for referrals included problems in coping and adjustment (34.6%), medication and treatment noncompliance (30.7%), depression (29.8%), pain management (15.4%), anxiety (15.4%), illness exacerbation (14.4%), acute evaluation (13.4%), new medical diagnosis (13.4%), difficulties in parent coping (14.4%), ongoing treatment (12.5%), decision making regarding treatment (9.6%), differential diagnosis (9.6%), acting out (7.7%), general support (6.7%), and family conflict (6.5%), with many patients having multiple reasons for referral.

Hospital-based services may also involve consultation and clinical practice activities in emergency departments conducting assessments for depression or suicide risk, assessment and triage for victims of acute trauma or acute illness exacerbations, or assessment of children in acute psychosocial crisis. Medically based practice by pediatric psychologists also involves practice in medical outpatient clinics either independently or as part of multidisciplinary teams. The latter may include teams headed by

pediatric subspecialties from endocrinology, pulmonology, gastroenterology, hematology, or rheumatology addressing health and coping issues related to diabetes, cystic fibrosis, asthma, inflammatory bowel disease, pediatric feeding aversion, sickle cell disease, juvenile rheumatoid arthritis, or other conditions. Pediatric psychologists also practice alongside health care professionals in primary care settings addressing acute health conditions (i.e., recurrent abdominal pain, headaches, toileting and soiling issues, sleep problems), as well as general emotional and behavior problems in children (Schroeder, 1979).

The science and practice of pediatric psychology is not limited to medical settings. Whether primarily involved in practice, training, research, or a combination of the three, pediatric psychologists also engage in role-related activities essential to the field in a variety of other settings. Whereas Oipari-Arrigan et al. (2006) found that most respondents worked in hospital settings (with about half in academic medical centers), a number of other practice settings were also noted. These included private practice (22%), academic psychology departments (5%), academic departments other than psychology (15%), mental health agencies (3%), and school systems (2%). Pediatric psychologists can also be found working or volunteering in camp settings designed for children suffering from chronic health conditions (Roberts et al., 2003). The following sections turn to the broad role and role-related activities engaged in by pediatric psychologists working in various settings.

Role-Related Professional Activities

As with clinical child psychologists, pediatric psychologists engage in a wide range of specialty-specific role-related activities. These include consultation, assessment, treatment, health promotion, promoting public health policy, training, and research. The ways pediatric psychologists carry out these activities in the context of their professional roles are detailed in the following sections.

Consultation Activities

As noted earlier, consultation is a critical role for pediatric psychologists, as our medical colleagues often represent the primary sources of patient referrals. The level of involvement between pediatric psychologists and medical colleagues during consultation may vary as a function of the case involved, the proximity of colleagues, or the presence of a formalized structure to support consultation. Consultation may be limited to brief discussions regarding general principles and strategies for

dealing with children and families, provision of advice relevant to a specific case, brief involvement in assessment or development of a treatment plan, or active long-term involvement in patient treatment and case management. There are various models for the level of collaboration (Drotar, 1995; Roberts & Wright, 1982). For example, pediatric psychologists can function independently from medical colleagues (e.g., in their own outpatient clinic), providing assessment, diagnosis, and, if necessary, treatment of referred patients. Alternatively, they can function as part of a collaborative team in the assessment and treatment of children and families. This may involve working side by side with medical colleagues in multidisciplinary clinics, marked by active involvement and shared responsibility by team members leading to collaborative case conceptualization and treatment recommendations. It is within the rubric of consultations that pediatric psychologists often perform a number of functions, listed next.

Assessment Activities

As in all domains of applied clinical psychology, assessment is a central function of pediatric psychologists. In the ideal situation, most assessment leads to the development of recommendations or potential treatment options to help address areas of concern. Assessment by pediatric psychologists commonly focuses on child and family behaviors, interaction patterns, coping strategies that impact adjustment to the child's medical condition, including the challenges associated with managing the child's illness, the implications for the long-term health of the child, and social and emotional sequelae of the health condition. Common strategies to gather information include (a) structured or nonstructured interviews with children and their parents; (b) completion of self-report or parent-report questions; (c) completion of questionnaires by schoolteachers or other professionals working with the child; (d) direct observations of family interaction patterns, child social skills, or completion of illness management tasks; and (e) self-monitoring of emotions, cognitions, or behaviors.

A couple of examples may help to illustrate the assessment process. Children with cystic fibrosis are often required to engage in a variety of illness management tasks, including increased caloric intake, airway clearance (chest physiotherapy and medications to loosen mucus in the lungs), pancreatic enzyme replacement therapy, and antibiotic medications to fight bronchial infections. Adherence to these treatment tasks, whether in children with cystic fibrosis or other illness conditions, is one of the most common and challenging referrals to pediatric psychologists. Accurate assessment of the actual adherence to various treatment tasks and barriers

hindering adherence (including antecedents and consequences of engaging in or not engaging in certain behaviors) are critical to developing appropriate and effective intervention plans that ultimately can impact the child's long-term physical health and quality of life. Interviews (focusing on the child, parents, the medical staff, and possible school personnel), behavioral checklists and self-report questionnaires, and written logs can be critical to documenting adherence and critical barriers. In addition, over the past 20 years electronic monitoring devices have become an invaluable tool in providing more accurate assessment of adherence to various illness management tasks. These include metered dose inhalers and medication event monitoring systems that record the date and time of vial openings and closings, as well as chest physiotherapy assistance devices, such as the Flutter or the high-frequency chest compression vest, which vibrates to loosen mucus in the lungs and can track adherence to chest physiotherapy.

Assessment may also involve evaluation of child and family functioning in anticipation of challenging future medical procedures or health issues. A common example is pretransplant evaluation of children presenting for organ transplantation. Pretransplant evaluations assess a wide variety of critical strengths, potential barriers to graft maintenance, and risk factors that may impact a child's or family's ability to follow the pre- and posttransplant treatment regimen, as well as posttransplant adjustment and coping. These include, but are not limited to, an assessment of (a) adherence to treatment regimen (taking prescribed medications, adherence to dietary recommendations), (b) understanding of the transplant process; (c) emotional coping and adjustment of child and parents or legal guardians; (d) presence of oppositional or disruptive behavior; (e) academic or social functioning; (f) social, emotional, and logistical support available to the family; (g) family communication; (h) family's ability to continue to complete daily life management tasks (grocery shopping, laundry, helping siblings with schoolwork, etc.); (i) family finances; and (j) other stressors such as additional family illness, potential job loss, and marital conflict. Accurate and reliable assessment from a multidisciplinary team is critical to establish a coherent picture of how these different areas ultimately can impact the child's and family's long-term health, quality of life, and maintenance of the graft.

Finally, assessment may involve psychoeducational assessment, including formalized measures such as the Wechsler Intelligence Scale for Children, the Stanford-Binet Intelligence Scale, or the Wechsler Individual Achievement Test to assess both cognitive functioning and academic achievement. Such testing may be advised to provide a baseline and track potential changes in cognitive functioning for children undergoing radiation or chemotherapy treatment for cancer or those who have experienced head

trauma or other medical conditions that can lead to deterioration in cognitive functioning over time.

Treatment Activities

Treatment of children with acute or chronic health conditions is one of the most commonly recognized functions of pediatric psychologists. However, it is clear that treatment by pediatric psychologists (and clinical child psychologists), as well as others, does not occur in isolation. Prior to engaging in intervention efforts practitioners must travel a long road of didactic and applied clinical training to develop skills and competencies in evidence-based approaches to treatment. Moreover, prior to and throughout the course of treatment, assessment is essential to elucidate targets and pathways for change and to monitor ongoing progress. Research, either by the practitioner delivering the intervention or, more likely, by other psychologists and health care professionals, is necessary to provide data on best practices and evidence-based treatments to guide and inform intervention efforts. In fact, treatment-related research is becoming critically important, given the growing emphasis on evidence-based treatment in pediatric psychology. These treatments are highlighted by the ongoing series on empirically supported treatments in the *Journal of Pediatric Psychology*. Potential child health-related difficulties that require intervention are numerous, but commonly involve coping and adjustment issues, adherence to treatment recommendations, or pain management. Problems of coping and adjustment may relate to death and dying, limits of daily functioning, family communication and conflict, school reentry, social interaction difficulties, or improving self-esteem. Adherence to treatment recommendations may involve increasing adherence to medication regimens, dietary recommendations (for cystic fibrosis, diabetes, inflammatory bowel disease, constipation), airway clearance (for cystic fibrosis), or increased physical activity (for obesity, Type 2 diabetes, juvenile rheumatoid arthritis). Pain management and coping with medical procedures may involve the use of diaphragmatic breathing, muscle relaxation, cognitive imagery or other active coping strategies to assist with injections, lumbar punctures, nausea associated with chemotherapy, or pain associated with sickle cell crisis or tumors. Treatment efforts often focus not only on the ill child, but also the parents and other members of the immediate and extended family, given the bidirectional influences between the child and his or her immediate family members. As with other functions performed by pediatric psychologists, collaboration with other health care and school professionals in the child's environment is essential as effective treatment often requires intervention at multiple levels in the child's environment.

Teaching and Mentoring Activities

Many pediatric psychologists spend valuable time training and mentoring the next generation of pediatric psychologists in clinical service delivery, research methodology, grant writing, and professional practice. Mentoring many involve formal and/or informal interactions of students, interns, and postdoctoral fellows. Senior faculty can also play a valuable role in the mentorship of junior colleagues and trainees. As pediatric psychologists strive to promote the value of their services to their medical colleagues and hospital administrators, education of professionals in other health care disciplines can be invaluable. This can take the form of active involvement in teaching trainees from other health care disciplines or engaging in informal teaching interactions with more senior medical colleagues (Drotar, Spirito, & Stancin, 2003; Roberts et al., 2003). This topic is reviewed in more depth later in this chapter.

Health Promotion Activities

Pediatric psychologists are becoming increasingly involved in health promotion activities such as developing and implementing lifestyle interventions to improve dietary and physical activity habits, reducing risk for childhood injuries, reducing drug and alcohol abuse, reducing tobacco use, parent training for adolescent mothers to reduce the risk for child neglect or abuse, and osteoporosis prevention. For example, Stark and colleagues (2005; Stark, Janicke, McGrath, Mackner, & Hommel, 2005) demonstrated the effectiveness of a behavior intervention designed to improve calcium intake and bone mineral content in children with juvenile rheumatoid arthritis and inflammatory bowel disease. More recently, pediatric psychologists have ventured into the public health domain and are working to help promote public health agendas through more broad-based community initiatives (Drotar et al., 2003). There are a variety of examples of quality research in this area. One excellent example is Planet Health (Gortmaker et al., 1999), a 2-year school-based intervention that has been demonstrated to have positive effects on the weight status of middle school youth (Gortmaker et al., 1999). Another obesity prevention program is the GEMS project (Girls' Health Enrichment Multisite Studies), which is an ongoing, multisite community-based program designed to identify and implement effective obesity prevention strategies for African American girls (Rochon et al., 2003). Finally, Levy and colleagues (Levy, Brugge, Peters, Clougherty, & Saddler, 2006) have recently reported on a community-based participatory research intervention that has demonstrated reductions in respiratory symptoms of pediatric asthmatics living in public housing. These types of programs demonstrate the positive impact that

innovative prevention and health promotion efforts can have on children's long-term health and quality of life.

Research Activities

As greater demands are placed on the profession to provide evidence supporting the effectiveness of psychological interventions for health-related problems and as competition for the provision of services is growing from social workers and other medical professionals, research activities are taking on greater importance for pediatric psychologists. Many of our medical colleagues have recognized what pediatric psychologists have to offer as active members of a multidisciplinary team, and subsequently are very willing to collaborate on research endeavors related to pediatric and child health psychology. One of the most important areas for future collaboration is in the area of treatment outcome research, where there has been a growing emphasis on developing evidence-based assessment and treatment methods. There is also a greater push to promote translational research and practice, to improve access to effective mental health care in diverse populations and community settings (Glasgow, Lichtenstein, & Marcus, 2003; Strauman & Merrill, 2004).

A major focus of treatment outcome research is to enhance adherence to treatment recommendations in children struggling with chronic and acute health conditions such as diabetes, cystic fibrosis, and asthma. Another common theme of current research in pediatric psychology is the identification of mediators and moderators of positive coping and adjustment in children with chronic health conditions. Finally, pediatric psychologists are at the forefront of integrating modern technology to assist in data collection and distribution of treatments for children and families, including telehealth, accelerometers to track physical activity, metered dose inhalers to track medication use, and palm pilots to assist children with accurate self-monitoring of dietary intake or physical activity.

Pediatric Psychology Compared to Clinical Child Psychology

In many ways, the field of pediatric psychology can be considered a subspecialty of clinical child psychology. Strong training in clinical child psychology is essential, but not sufficient, to function as a pediatric psychologist. Skills in assessment and intervention and knowledge of the role of developmental processes and child psychopathology are critical for pediatric and clinical child psychologists. However, there are significant differences between these disciplines. Pediatric psychologists place a much greater emphasis on medically related issues and regularly work with

children and adolescents experiencing acute and chronic health conditions. Pediatric psychologists spend more time working in medical settings and collaborating with medical professionals from a variety of disciplines. As a result, they must have a greater understanding of disease processes, medical management of illness, broader health systems issues, and the referral and consultation process than clinical child psychologists.

Frequently the time allotted to pediatric psychologists to complete assessments or intervention is less than that typically allocated to clinical child psychologists (Tuma & Grabert, 1983). Children often are admitted to inpatient units for only a few days, or weeks, at a time. Many families may drive great distances for expert pediatric care. Primary care settings, another common venue for pediatric psychologists, are often fast-paced environments with large number of patients, allowing for a limited amount of time with each family. In multidisciplinary clinics, often there is only a brief amount of time allotted to each member of the treatment team to work with a family. Moreover, whether in primary care settings, outpatient clinics, or hospital settings, pediatric psychologists may be forced to work with child and/or family members in inpatient or exam rooms, with numerous interruptions. Given these limitations, brief, targeted, and flexible therapies that can address critical problematic behaviors or coping skills in a short period of time are often emphasized.

Training for Pediatric Psychology

As noted in the preceding sections, there are a variety of role-related professional activities and opportunities for practice open to pediatric psychologists. Not surprisingly, students pursuing a career in pediatric psychology require training to help them develop a blend of general or core skills similar to those developed through training in clinical child psychology, as well as specialized training related to the unique roles, settings, and contexts in which pediatric psychologists function. For many students, core training in child therapy and research skills come first through coursework and in-house practicum training in graduate school. Fundamental therapy process skills and behavioral, cognitive-behavioral, interpersonal, and family systems intervention strategies form a foundation on which more specific training in pediatric psychology can build.

Regarding those elements seen as necessary for adequate training in this area, the Society of Pediatric Psychology's Task Force on Training of Pediatric Psychologists (Spirito et al., 2003) has outlined 11 domains of training that are believed to be necessary to develop the requisite knowledge and build the general and specific skills necessary for pursuing a career in pediatric psychology. These include training in the following:

(a) life span developmental psychology; (b) life span developmental psychopathology; (c) child, adolescent, and family assessment; (d) child and family intervention strategies; (e) research methods and systems evaluation; (f) issues of diversity; (g) the role of multiple disciplines in service delivery systems; (h) prevention, family support, and health promotion; (i) social issues affecting children, adolescents, and families; (j) consultation and liaison roles; and (k) disease process and medical management.

One of the most salient aspects of training, unique to pediatric psychologists, is the need to have opportunities to work in interdisciplinary settings with professionals and trainees from other health professions (Spirito et al., 2003). Primary care and other outpatient clinical settings offer a fast-paced environment, where pediatric psychologists must think on their feet, remain flexible, build skills in effective but targeted brief therapy interventions, and learn to effectively communicate findings and impressions while also coordinating care with other health professionals. Given that most university academic settings have limited access to hospital-based training experiences, most in-depth hospital-based experiences usually occur during the internship and postdoctoral training experiences, although there are certainly exceptions to this rule.

Once again, the changing health care environment highlights the continuing need for additional treatment outcome research by pediatric psychologists to demonstrate the worth of our services to both patients and health care professionals. Conducting successful treatment outcome research in medical or community settings requires flexibility and teamwork, and knowledge of disease processes and medical systems, a deep respect for the issues and challenges presented to families of children struggling with acute and chronic health conditions, and research methodology considerations are critical. Almost all doctoral students in clinical psychology receive training in research methods and the evaluation of treatment outcomes. However, training students to conduct treatment outcome research studies on the scale required to support judgments of long-term efficacy and effectiveness necessitates more specialized training and experience. This may include, but are not limited to (a) training in participant recruitment and retention, (b) assessment methodology unique to specific health conditions, (c) longitudinal research design and corresponding data analytic approaches appropriate to such designs, (d) data management programs and protocol, (e) supervision and training of research team members and interventionists, (f) facilitating and maintaining collaboration with medical colleagues, (g) dissemination and translational research approaches, and (h) ethical considerations in the conduct of treatment outcome research.

Given the nature of the current health care environment with its increasing limitations on reimbursement for services provided by pediatric psychologists and the constraints on fiscal survival and success, “pediatric psychologists must be advocates not only for our services but also for the resources that support them” (Kronenberg, 2006, p. 648.). Thus, training in basic business management practices such as marketing of services, accounting, and financial management seem increasingly relevant to the ability to survive and, eventually, flourish as a profession. This may start with coursework during graduate training, but should be supplemented with seminars and hands-on practice during internship and postdoctoral training. In addition, as funding sources become more limited, training in grant writing will be beneficial for research and clinical pediatric psychologists. Again, these skills can be built through both didactic coursework and seminars, as well as hands-on experience assisting mentors with their applications or by submitting applications for their own National Research Service Awards during graduate and postdoctoral training.

Future Directions and Key Issues for Pediatric Psychologists

There are a number of key issues facing the field of pediatric psychology that will ultimately impact the direction of future practice as well as the viability of the field. Many of these issues were outlined by an expert panel of pediatric psychologists (Brown & Roberts, 2000), and some have been discussed previously in this chapter. The most important issue identified by respondents was related to potential threats to the viability of pediatric psychology. In response to this threat, there is a growing need to demonstrate the effectiveness of intervention protocols through controlled treatment outcome studies, a greater emphasis on interventions that improve health status as opposed to just coping with illness, and a greater need for research examining the cost offset associated with psychological interventions. It will also be important for pediatric psychologists to assess alternative sources of funding and reimbursement (Drotar, 2004), as many of the services provided by pediatric psychologists, such as improving adherence, adjustment to chronic illness, consultation with medical colleagues, and pain management, are not technically in the categories of the *Diagnostic and Statistical Manual of Mental Disorders*. Increasing awareness of what pediatric psychologists can do in medical settings by marketing our services to medical professionals as well as patients may help ensure the viability of pediatric psychology as a field of practice (Bradford, 2004).

Many of the populations and issues researched by pediatric psychologists involve small numbers of patients in hospital settings. As

such, future research, especially treatment outcome research, will require multisite investigations to enroll adequate numbers to provide sufficient power to test study hypotheses.

Most pediatric psychologists are congregated in large academic medical centers. As a result, many people have to travel long distances for pediatric care as they do not have access to pediatric psychology services in their home town (Kronenberg, 2006). Thus, a significant opportunity for future growth of pediatric psychology lies in outpatient, primary care pediatric settings. Development and behavioral problems often first present to primary care providers, who have been referred to as the gatekeepers to the health care system. Such a setting would seem ideal for pediatric psychologists to make significant contributions to the health status and quality of life of children and families and to demonstrate their usefulness and the benefit of their services to medical colleagues. The call for pediatric psychologists to build practices in primary care settings has been echoed over the past few decades, yet few psychologists have successfully accomplished this transition. Renewed efforts in this direction could provide big dividends to pediatric psychologists and may be vital for the future of our field.

New and emerging technologies provide pediatric psychologists with a variety of opportunities to expand their service net. Genetic testing, for example, has the potential to provide families with information on the risk of children developing life-threatening diseases, chronic conditions, and development irregularities (Patenaude, 2003). There are a variety of opportunities for research to ascertain the impact of knowledge of risk on adjustment and decision making, as well as the best ways to communicate information to parents and children (Tercyak, 2003). Another emerging technology is telehealth, which provides opportunities to bring treatment to children and families in underserved areas, but expertise and research will be required to determine effective strategies to intervene using this new medium (Harper, 2003).

Prevention and health promotion are areas that hold the potential for long-term health benefits and medical cost offsets. As noted earlier, there are numerous opportunities for pediatric psychologists to make valuable contributions in these areas. Included here is work in nutrition and exercise to impact weight status and physical fitness, new and more comprehensive efforts to reduce unintentional injuries, multimodal parent training programs to reduce abuse and neglect, and approaches to osteoporosis prevention, just to name a few. Historically, reimbursement for prevention activities has been limited; however, the growing emphasis on translation and dissemination research and practice may provide more opportunities for pediatric psychologists to provide mental health services in underserved

communities (Glasgow, Klesges, Dzewaltowski, Bull, & Estabrooks, 2004; Glasgow et al., 2003).

School Psychology

Fagan and Wise (2000, p. 4) define a school psychologist as “a professional psychological practitioner whose general purpose is to bring a psychological perspective to bear on the problems of educators and the clients educators serve” and emphasize the “educational and psychological foundations” of the discipline. Unlike clinical child and pediatric psychology, school psychology is unique in terms of its focus on the functioning of individuals, groups, and systems in the school setting. As an area, school psychology also differs from clinical child and pediatric psychology in that the majority of practicing school psychologists have a master’s or educational specialist degree rather than the doctorate, with the specialist degree being the most common. A National Association of School Psychologists membership renewal survey in 1999 found that 54% of school psychologists held a specialist degree, whereas only 26% held a doctoral degree (Fagan & Wise, 2000).

Not surprisingly, the most common setting for school psychologists is in schools, with approximately 80% of practitioners working in elementary or secondary schools. Private practice (3% to 5%) appears to be the second most common setting for school psychologists, and government agencies, community mental health centers, developmental disability centers, and universities are among some of the other work settings (Fagan & Wise, 2000). It should be noted that doctoral-level school psychologists frequently work with clinical populations outside of the school setting and engage in clinical activities similar to those performed by clinical child psychologists.

Role-Related Activities of School Psychologists

School psychologists engage in a variety of role-related professional activities, such as psychoeducational assessment, intervention, consultation, and, to a lesser degree, research and program evaluation, training, and supervision. These activities are not mutually exclusive as school psychologists often perform these activities concurrently.

Assessment Activities

School psychologists have historically spent much of their time conducting psychoeducational assessments. Indeed, Reschly (2000) has suggested that school psychologists spend approximately 50% to 55% of their time engaged in activities related to psychoeducational assessments. These assessments typically serve to gather information regarding the child's current difficulties to help plan interventions and/or provide a basis for special class placement or classroom accommodations. Presenting problems dealt with by school psychologists can relate to a range of possible areas, including academic, social, emotional, and behavioral functioning. Assessments can include multiple components, including review of school records, classroom observation, and interviews with parents, teachers, and other persons who may be able to provide information related to the child's presenting difficulties. They can also include testing of cognitive ability, academic achievement, and perceptual and motor skills, as well as the administration of standardized rating scales measuring behavior problems, personality, and adaptive functioning (Fagan & Wise, 2000). It is noteworthy that the assessment activities of school psychologists are to some degree shifting away from an emphasis on psychoeducational testing toward more functional assessments designed to generate and evaluate interventions (Reschly, 2000).

Intervention Activities

School psychologists report spending approximately 20% of their time engaged in intervention-related activities, including planning, implementation, and evaluation of interventions (Reschly, 2000). These interventions can take various forms, including both individual and group counseling and planning and implementing classroom-based intervention. Individual counseling can focus on helping children learn skills and coping strategies to deal with a range of difficulties in the areas of academic, social, emotional, and behavioral functioning. Group counseling is often used to help children learn and use adaptive skills related to peer interactions, dealing with anger, and stressful situations such as divorce or death of a parent. Classroom-based interventions can involve collaborating with the child's teacher to arrange a particular seating arrangement, selecting an appropriate classroom placement, finding additional academic supports such as tutoring, and implementing behavior management programs in the classroom.

Consultation Activities

School psychologists are reported to devote approximately 23% of their time to consultation activities (Reschly, 2000). Consultation has been viewed as a collaborative, problem-solving endeavor between school psychologists and other personnel, often teachers, to help ensure that assessment-based recommendations are implemented (Fagan & Wise, 2000). Consultation can involve multiple components, including problem identification, assessment, and intervention planning, implementation, and evaluation. It has also been conceptualized as a way to help address the potential shortage of school psychologists in the future, given the potential to impact beyond the individual. For instance, consultation with a teacher can lead to interventions that have an impact on a whole classroom, and consultation on a systemic level may have the potential to effect positive change in an entire school district. Consultation has also been viewed as a way of promoting preventive strategies by providing children with supports, increasing their subjective sense of well-being, and building competencies (Meyers, Meyers, & Grogg, 2004).

Other Role-Related Activities

Unlike clinical child and pediatric psychologists, only a small percentage of school psychologists appear to be involved in conducting applied research and program evaluation. Survey findings suggest that only about 2% of school psychologists engage in these activities (Reschly, 2000). This low number may be due in part to the fact that the large majority of school psychologists work in school settings, where research may not be supported (Fagan & Wise, 2000). Research that is conducted by school psychologists is likely most often conducted by PhD-level school psychologists who work in university settings.

Some school psychologists engage in activities related to the training of students, including teaching and supervision. School psychologists based in university settings likely engage in such roles to a significant degree, whereas school psychologists in other settings may engage in these activities on a part-time or adjunctive basis (Fagan & Wise, 2000). Other school psychologists function as administrators of psychological services or as supervisors of other school psychologists.

Factors Influencing Role-Related Activities

The amount of time school psychologists engage in various activities may be influenced by several factors. As mentioned earlier, laws and

funding mechanisms can exert a significant influence. Historically, state and local education agencies have been most invested in having school psychologists conduct assessments to determine children's eligibility for special education services (Reschly, 2000).

The ratio of school psychologists to students can also influence the opportunity for school psychologists to engage in different roles. Generally, the more favorable the ratio, the more school psychologists are able to engage in activities beyond psychoeducational assessment, such as intervention and consultation (Curtis, Hunley, & Grier, 2002).

The level of training of the school psychologist is likely to be important, with doctoral-level practitioners generally being less involved in psychoeducational assessment activities and more involved in intervention, consultation, and applied research and program evaluation (Curtis et al., 2002). The availability of other providers in the setting, such as social workers and clinical psychologists, can influence the number of opportunities school psychologists have for intervention activities (Fagan & Wise, 2000).

Fagan (2002) noted that a consistent theme in the school psychology literature over the past several decades has been the call for school psychologists to expand their roles beyond assessment and become more involved in activities related to intervention and consultation. He notes that despite this consistent theme, research suggests that school psychologists continue to spend approximately half of their time involved in activities related to psychoeducational assessment, and report generally positive job satisfaction ratings.

The Expanding Role of the School Psychologist

Although the large majority of school psychologists work predominantly in school settings and spend a significant amount of time engaging in assessment-related activities, a significant number of doctoral-level school psychologists have expanded their range of clinical activities well beyond assessment and function in roles that do not differ measurably from clinical child psychologists. School psychology programs are also now providing opportunities for students pursuing doctoral training in school psychology to obtain subspecialty training in the area of pediatric school psychology. Such training is designed to prepare school psychologists to engage in health-related activities such as serving as liaisons between schools and health care agencies to address the medical, educational, psychological, and community needs of children with or at risk for emotional and behavioral disabilities. As such, doctoral-level school

psychologists are becoming increasingly similar to professionals in the area of pediatric psychology in terms of role functions.

Summary

As can be seen from this overview, the specialties of clinical child and pediatric psychology have grown rapidly during the past 25 to 30 years. Indeed, in a recent paper, Prinstein and Roberts (2006) characterized these specialties as currently in their “professional adolescence” and as “grown up and striving for autonomy.” As these two specialties have evolved, the roles of those working in these areas have become more and more complex, with child and pediatric psychologists assuming more varied role-related activities as health care providers and taking a prominent role in research focusing on the development of evidence-based practice. While primarily working in school-related settings, doctoral-level school psychologists also often engage in clinical activities that overlap significantly with the work of both clinical child and pediatric psychologists.

* The National Conference on Clinical Child and Adolescent Psychology was founded in October 1994 by Michael Roberts and colleagues in the Clinical Child Psychology program at the University of Kansas. The National Conference on Child Health Psychology (formerly the Florida Conference on Child Health Psychology) was founded in 1988 by James H. Johnson and Suzanne Bennett Johnson and their colleagues in the Department of Clinical and Health Psychology at the University of Florida.

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