School psychology: a public health perspective
I. Prevention, populations, and systems change

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Abstract

Concerns regarding American schools and mental health services for children abound, including inadequate educational achievement, school violence, over-referral to special education and disproportionate placement of minorities into special education, under-utilization of mental health services for children, and a poorly coordinated system of child mental health services. All of the above concerns share two common attributes: (a) they are statements regarding populations, rather than specific individuals; and (b) they are best addressed by changing system-wide elements of psychological service delivery. We argue that, although conceptualizing school psychology as primarily an indirect service specialty (e.g., J. Sch. Psychol. 28 (1990) 203) has advanced our thinking about effective service delivery, conceptualizing school psychological services from a public health perspective will provide an even broader framework that can increase both the efficacy and efficiency of school psychologists’ work.

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Concerns regarding American schools abound. Topping the list are issues about inadequate educational achievement, particularly at the secondary school level (Baker & Smith, 1997; Stedman, 1996). School violence, especially after the shock of the Columbine massacre, also has grabbed the public’s attention, even though the incidence of school-based violence is much lower than popularly imagined (Burns, Dean, & Jacob-Timm, 2001). In reference to low-achieving students and those with disabilities, the growing proportion of
students in special education (Ruediger & Lorance, 1999), the disproportionate placement of African-American students into more stigmatizing disability categories (Patton, 1998), the continuing tendency to under-serve students with behavioral and emotional impairments (Walker, Nishioka, Zeller, Severson, & Feil, 2001), and the use of pull-out special education programs that lack proven effectiveness (Detterman & Thompson, 1997) raise concerns both at the levels of professional ethics and public policy.

Similar to concerns about the K-12 educational system, the system of mental health services for children and adolescents needs substantial improvement. Two factors are paramount—under-utilization and a poorly coordinated system of care. Approximately 70% of children and adolescents who are in need of mental health treatment do not receive any such services (National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention Development and Employment, NAMHC, 2001). Even more startling, only about 20% of students with serious emotional disturbance receive any form of mental health intervention, and only about half of those receive such services from specialty providers (Burns et al., 1995). The lack of coordination of mental health services for children and their families is summarized crisply in the first-ever Surgeon General’s report on mental health . . .“[the delivery system] is complex, sometimes to the point of inscrutability—a patchwork of providers, interventions, and payers” (US Public Health Service, 1999, p. 179). Schools are not merely an adjunct to the mental health delivery system, they are the primary providers of mental health services for children—the de facto mental health system for children (Burns et al., 1995; Hoagwood & Erwin, 1997).

All of the above concerns share two common attributes: (a) they are statements regarding populations, rather than specific individuals; and (b) they are best addressed by changing system-wide elements of psychological service delivery. Although numerous school psychologists have advocated for the increased use of an indirect service delivery model (Bradley-Johnson & Dean, 2000; Gutkin & Conoley, 1990) or a greater accent on prevention (Myers & Nastasi, 1999), school psychologists continue to focus the vast bulk of their professional efforts on individual casework, particularly determining eligibility for special education placement (Reschly, 2000). In addition, the most commonly advocated “alternative delivery systems” (i.e., case-centered teacher consultation (e.g., Brown, Pryzwansky, & Schulte, 1998; Erchul & Martens, 1997), curriculum-based assessment (CBA) and other non-traditional assessment procedures (Shinn, 1998), or other “pre-referral interventions” (Reschly, 1998) frequently are as focused on services to individual students as is the more traditional assessment-focused model of service delivery.

We will argue that conceptualizing school psychological services from a public health perspective can provide a broad framework that will increase both the efficacy and efficiency of school psychologists’ work.

**Description of the public health model**

*Historical development*

Although many disciplines currently apply the public health model to different fields of study, public health itself has a rich background in medicine. Throughout history, health
has been a public concern due to the medical threats that existed throughout society in the form of communicable diseases, lack of medical knowledge, and poor living conditions (Woodside & McClam, 1998). As physicians and government leaders faced insurmountable incidents of illness and rising death tolls, they began to consider the potential causal role of societal and environmental variables. Consequently, the first public health programs began as simple policies to clean up communities; these efforts gradually grew into medical prevention as we know it today in the form of vaccines and environmental improvement (Woodside & McClam, 1998). Since the 1970s, the health status of populations in the United States has been a priority (Peterson & Lupton, 1996), implicit in federal and local policy, research, and interventions.

**Basic principles and concepts**

Unlike in most specialties of applied psychology where the client is an individual, society is the client within the public health model (Mason & Linnenberg, 1999). In focusing on the collective well being of populations, public health researchers have moved from addressing the health of the individual to considering the social aspects of health, including lifestyle, socioeconomic status, and preventive education (Peterson & Lupton, 1996). Consequently, health is no longer considered to be a linear association between people and their environment, but is a “dynamic and symbiotic...relationship” (Peterson & Lupton, 1996, p. 109). Risk factors at a societal or community level interact with individual-level risks for specific populations, leading to the incidence of new cases of health problems. For example, high levels of lead in paint within certain communities was found to predispose children, especially young children, towards a variety of health problems later in life (Olden, 1993; Silbergeld, 1996).

Within a public health framework, therefore, the risk and protective factors of populations are nested within community levels of risk for or protection from disease, with the explicit aim of promoting health. The framework for constructing levels of risk, causality, and health promotion depends upon data-based decision making. Research is not conducted merely to expand theoretical knowledge, but to determine a specific relationship among biological, physiological, genetic, behavioral, social, or economic variables, with the explicit aim of ascertaining causality and developing interventions to promote health. As a consequence, the goal of research within this public health framework is to develop specific interventions targeted towards the causal processes that lead to illnesses. This framework implies that public health-focused research does not take place exclusively in laboratory settings, but rather in real world settings wherever feasible, because such results are more easily generalizable to population-based interventions (Hoagwood, Burns, & Weisz, 2002; Hoagwood, Hibbs, Brent, & Jensen, 1995; Norquist, Lebowitz, & Hyman, 1999). As a result, the ultimate judgment in public health resides in the results of research, rather than in the hands of “experts.”

By considering research in the context of suitability of results to the real world, public health also traditionally considers intervention and health problems on a scale of cost-benefit to risk-benefit. An intervention will only be considered effective for the population if its benefit is determined to outweigh the sum of its risk and cost (Mason & Linnenberg, 1999). From the perspective of populations, an intervention would only be effective if it is
likely to be applied and followed with integrity. A new trend within public health research and interventions has been a focus on the promotion of health, instead of the exclusive focus on the reduction of disease (Mason & Linnenberg, 1999).

The central characteristic of the public health model is its emphasis on prevention (Woodside & McClam, 1998). As was mentioned previously, public health researchers focus on elements of the individual or environment that contribute to the incidence or prevalence of a health problem. While this information may have implications for treatment interventions, it also indicates areas for the development or adoption of prevention programs to impede an unwanted event or problem that leads to the occurrence of disease.

Researchers currently agree upon three levels of prevention, each differing in the point of intervention and intensity of services (Myers & Nastasi, 1999). Universal or primary prevention refers to those interventions that are desirable for everyone in a population. Selective or secondary prevention is directed at individuals who have been identified as a member of a subgroup that is at risk of becoming ill. Finally, indicated or tertiary prevention is appropriate for individuals who display symptoms or conditions characteristic of an illness (Mrazek & Haggerty, 1994).

At the center of prevention is the prevailing belief in the efficacy of early intervention. The Surgeon General’s National Action Agenda for Children’s Mental Health (US Public Health Service, 2000) strongly argues for increased emphasis on the deployment of evidence-based prevention or early intervention programs for young children as a cornerstone to a national strategy to improve children’s mental health in the country. The National Institute of Mental Health (NIMH) recently noted that “prevention research can be broadly characterized as seeking to understand and influence the developmental trajectory from the earliest formation of the nervous system throughout the course of life in order to prevent mental disorders and promote mental health” (NAMH Workgroup on Mental Disorders Prevention Research, NAMHC, 1998, p. 17). The implications of the Surgeon General’s reports and of the federal research efforts to strengthen and deploy evidence-based preventive programs (NIMH, 1996) are to redefine mental health as an integral component of primary health, not as an adjunct or an afterthought, and to integrate mental health fully within the broad public health framework.

In developing a broad definition of prevention research, the NIMH noted that such research ought to consider basic biological, psychological, and sociocultural risk factors (NAMHC Workgroup, 1998). In addition to its focus on pre-intervention research, the newer frameworks for prevention include a focus on issues related to relapse, co-morbidity of illness, disability, and consequences for families, with an emphasis on integrating evidence-based preventive programs within systems of care for children, based on rigorous research in pre-intervention, preventive intervention, and services research (Hoagwood & Koretz, 1996). The hopeful results of such research in public health is the ultimate reduction in rates of particular disorders in populations (NAMHC Workgroup, 1998).

As a result of this contemporary focus on prevention in various fields of psychology, there is increased attention to the preventative needs in communities. The Surgeon General and related governmental authorities advocate the establishment of prevention education in the training curricula of teachers, pediatricians, psychologists, and other care providers of children (US Public Health Service, 2000). Such efforts would increase the accessibility of
resources in communities. Instead of a focus on treating the specific needs of individuals, the goal of public health is to consider the largest possible groups of people (i.e., populations) and intervene in such a way as to lead to positive change for a large percentage of the population. Although there is likely always to be a need for treatment of chronic illnesses, and consequently for development of a strong research base on treatment efficacy and effectiveness, the focus on preventive approaches is designed to decrease the number of individuals who warrant treatment services.

**Application of public health model to school psychology**

The conceptual rationale for using the public health model as an organizing framework for the delivery of school psychological services stems from two inter-related phenomena. First is the development of ecological psychology as a theoretical model (Bronfenbrenner, 1989). Second is the growth of the specialty of community psychology, with its accent on prevention and “populations as clients,” as contrasted to the more individual and intrapsychic focus of traditional clinical psychology. Specific aspects of the public health model that have particular relevance to school psychology include: (a) applying scientifically derived evidence to the delivery of psychological services; (b) strengthening positive behavior versus focusing only on decreasing problem-behavior; (c) including a strong focus on prevention, as well as treatment; (d) accenting community collaboration and linked services; and (e) using research strategies that may improve the knowledge base of school psychology and provide an effective framework for evaluating school psychological services. Each of these aspects is discussed below.

**Application of scientific principles**

The public health model historically has emphasized both the application of scientific principles to practice, and the use of empirical outcome data to evaluate interventions. The critical importance of basing interventions on scientifically proven evidence was clearly articulated in the Report of the Surgeon General’s Conference on Children’s Mental Health (US Public Health Service, 2000, p. 6), which lists as the second goal of its “national action agenda”—to “Continue to develop, disseminate, and implement scientifically proven prevention and treatment services in the field of children’s mental health.”

As a psychological specialty, school psychology has deep scientific roots. Yet school psychology practice frequently rests on unexamined tradition. Indeed, throughout psychology there has been a reluctance, until recently, to establish standards for “best practice” against which intervention procedures could be judged. The “empirically validated” or “evidence-based” interventions movement (Kazdin & Weisz, 1998; Task Force on Promotion and Dissemination of Psychological Procedures, 1995; Weisz & Hawley, 1998; Weisz, Hawley, Pilkonis, Woody, & Follette, 2000; Weisz & Jensen, 1999), less than a decade old in clinical and counseling psychology, is only now gaining momentum in school psychology (Kratochwill & Stoiber, 2000; Stoiber & Kratochwill, 2000). Until 1999, school psychology was left out of the intense efforts organized by the Society of Clinical Child and Adolescent Psychology (APA Division 53, then a section of...
APA Division 12) to establish criteria for evidence-based psychosocial treatments (Chambless & Hollon, 1998), despite the fact that most children who receive mental health services receive them in school settings (Burns et al., 1995). This is changing, due to efforts within the American Psychological Association (APA) and National Association of School Psychologists (NASP) as well as within foundations (e.g., MacArthur Foundation) to broaden the base for developing standards for evidence-based practices, not merely evidence-based psychosocial treatments. This means that preventive programs, pharmacological treatments, as well as evidence-based services will be included in the broad array of research-based interventions for which criteria can be established. The role for school psychology in these efforts is indisputable.

Few studies exist that examine school-based psychological practices in reference to some articulated evidence-based criteria. One recent exception is the Rones and Hoagwood (2000) research review of school-based mental health services, which reviewed only studies that used either: (a) randomized designs, (b) quasi-experimental designs with matched samples, or (c) multiple baseline designs with sample cohorts as their own controls. Searching the literature from 1985 to 1999, Rones and Hoagwood found only 47 studies that satisfied these criteria, a finding that is itself revealing regarding the small amount of rigorous research being conducted on school-based mental health services. Similarly, an earlier review of literature from 1985 to 1995 (Hoagwood & Erwin, 1997) found only 16 studies that used randomized assignment, still the “gold standard” in empirical research. Increasing the use of “scientifically proven” interventions, as called for by the Surgeon General’s Conference proposed national agenda (US Public Health Service, 2000), would serve to increase both the effectiveness and credibility of school psychologists’ work.

**Focus on strengthening positive behaviors**

Typically, school-based psychologists respond primarily or exclusively to “referrals” for insufficient academic progress or problematic behavior. This mode of action tends to focus attention on goals of decreasing problem behavior, analogous in the public health arena to decreasing disease or pathology. In the modern public health model, however, there is an increasing focus on strengthening positive health characteristics, e.g., following a low-fat diet. Focusing on positive measures leads to interventions that impact broader populations, including individuals with identified problems. A good example of a school-based, mental health intervention that includes such a positive focus is the Fast Track project (Conduct Problems Prevention Research Group, 2000), a multi-component program from kindergarten to adolescence that includes interventions at the school, classroom, and individual student levels. Although Fast Track includes a range of individually focused behavioral or psychosocial “treatments” (e.g., positive behavioral supports at home and school, variants of family counseling, social skills training groups) for students at-risk for conduct disorders, the project also includes broad interventions such as building healthy classroom atmospheres and homework clubs. The Fast Track project has shown moderate positive effects on social, emotional, behavioral, and academic outcomes for the at-risk children (Conduct Problems Prevention Research Group, 1999a), and significant effects for classroom-wide social development interven-
tions on aggression and hyperactive–disruptive behavior, and on classroom atmosphere (Conduct Problems Prevention Research Group, 1999b).

**Prevention as a major component of service delivery**

One of the key components of the public health model that most clearly distinguishes it from the so-called “medical model” is a strong accent on prevention (Woodside & McClam, 1998) of problems, rather than treatment of problems once they occur. This focus on prevention is consistent with the public health model’s stress on population-wide interventions. Prevention is now an accepted part of the work of school psychologists, although typically occupying a fairly small amount of the psychologist’s time (Reschly, 2000). That prevention has gained respectability in the specialty is reflected in the inclusion of two chapters on this subject (Myers & Nastasi, 1999; Zins, Heron, & Goddard, 1999) in the most recent edition of the *Handbook of School Psychology* (Reynolds & Gutkin, 1999), and no less than seven chapters in NASP’s *Best Practices IV* (Thomas & Grimes, 2002) are dedicated to prevention-related topics.

Until relatively recently, school and other psychologists may have been reluctant to invest substantial professional time and energy in prevention activities because of a perceived lack of research support. This concern is no longer valid. By 1996, the research literature contained about 1200 preventive outcome studies that targeted children and adolescents (Durlak, 1997). Research results for primary (universal) prevention programs (Durlak & Wells, 1997, p. 115) indicate that “…most categories of [primary prevention] programs produced outcomes similar to or higher in magnitude than those obtained by many other established prevention and treatment interventions in the social sciences and medicine.” For selective (secondary) prevention programs, the literature suggests that behavioral and cognitive–behavioral prevention programs for children with problems not quite serious enough to warrant a diagnosis are about as effective (mean effect size (ES) about 0.50) as psychotherapy for children with diagnosed clinical disorders. In addition, indicated prevention programs that target incipient externalizing disorders (a population that is difficult to treat successfully once a clinical disorder actually is diagnosed) are very effective (mean ES=0.72) (Durlak & Wells, 1998).

The issue of school violence, whether the everyday, low-level violence caused by bullying (Carney & Merrell, 2001) or the rare but nationally visible crises that occurred at Columbine High School, in Paducah, KY, and other American schools in the 1990s, is one in which prevention is critical. For example, recent data indicate that bullying is a serious problem among American youth (Nansel et al., 2001). Approximately 30% of a national sample of over 15,000 students reported moderate or frequent involvement in bullying, with 13% as bullies, 10% as victims, and 6% as both. Reviewing the research on school violence is beyond the scope of this paper. However, two points regarding school violence prevention support the applicability of the public health model to school psychology. First, school violence prevention is a prime example of an area in which it is critical to determine which programs or approaches have empirical validation, and which do not. For example, the very popular DARE program is not supported by research (Sherman et al., 1998). The Surgeon General’s youth violence report (US Public Health Service, 2001) includes school-based models of prevention and is an important document in that it describes the
Evidence base for these programs, as well as noting those programs that lack such evidence. Second, empirically validated school violence prevention programs successfully illustrate how the principles of the public health model may apply to school psychology. One such example (Olweus, 1993) follows.

Illustrative example

In a multi-pronged approach to the reduction of bullying in schools, Norwegian psychologist Dan Olweus (1993) developed a school-based program that involves interventions at the school building, classroom, and individual student levels. Building-level interventions include such activities as the collection of school-wide data on the prevalence of bullying, a whole-school conference day devoted to the topic, increased teacher supervision during recess and lunch time, and study groups for both teachers and parents. At the classroom level, Olweus’ program focuses on clear classroom rules to establish an anti-bullying climate; role-playing and skill-building exercises; real-time praise and support for positive behavior, as well as sanctions for instances of bullying; classroom meetings that focus on rule-making and problem-solving, similar to those popularized by Glasser (1969); and the use of cooperative learning strategies, among other activities. If problems still exist after the school- and classroom-wide interventions are in place, the Olweus program includes interventions at the individual level for both bullies and victims. Unlike most American approaches, Olweus focuses on the teacher as the primary agent of change with the individual student.

The Olweus program (Olweus, 1993) has a strong research foundation. A multi-year, multi-site program evaluation involving approximately 2500 students from 42 elementary and junior high schools in Norway found that there were marked reductions of 50% or more in bullying during the 2-year period after the program was introduced. In true “dose/response” fashion, the program effects were greater after 2 years of the program compared to data at the end of 1 year. There was a reduction in both newly reported cases of bullying (“incidence” in public health model terms) and a reduction in already-existing victimization cases (“prevalence” in public health terminology). The Olweus program apparently had systemic effects—in addition to a substantial reduction in bullying, there was also a clear reduction in other “anti-social” behaviors such as vandalism, fighting, theft, alcohol abuse, and even truancy. Additionally, the program resulted in an increase in positive outcomes, including more positive student attitudes toward schoolwork and school, and more positive social relationships.

The Olweus (1993) anti-bullying program illustrates a number of facets of the public health model applied to school-based mental health and behavioral issues. First, the program includes interventions at the universal (i.e., school-wide), selective (interventions for “at-risk” youth), and indicated (interventions with identified “bullies” and “victims”) levels. Second, the goal of the program is the reduction of incidence and prevalence of bullying, i.e., the effectiveness of the program is gauged by its effects on populations, rather than its effects on individuals. Third, the program has incorporated a rigorous, outcome-based program evaluation. However, recent adaptations of Olweus’ program for North America have met with only limited success (Wiener, 2001). The differential effectiveness of the Olweus program found in Scandinavia versus North America illustrates the need for local program evaluation and adaptation.
Community collaboration model and school-linked services

Coordination and integration of services has been a major and traditional focus of the public health model. Three issues regarding child and adolescent mental health and service provision point out the applicability of the public health model to schools. First, universal access to mental health services and coordination of these services are paramount concerns. The Report of the Surgeon General’s Conference on Children’s Mental Health (US Public Health Service, 2000, p. 8) identified “[increasing] access to and coordination of quality mental healthcare services” as a major goal. All recent (ca. 1996) children’s services legislation includes coordinated, integrated service delivery as a central mandate (Talley & Short, 1996). This move toward collaborative, multi-agency or multi-professional service delivery (versus a single-provider model) that addresses issues from child, parent, and neighborhood perspectives reflects the most current thinking regarding service delivery (Short & Talley, 1999). It is based upon the system of care model first developed in the 1980s to enable children with severe mental health problems to remain within their communities (Stroul & Friedman, 1986). Second, schools may be the best location for universal access to services. Providing services in places where youth and families congregate (e.g., schools, recreation centers, churches, and others) was identified as another major goal in the Surgeon General’s Conference (US Public Health Service, 2000). Carlson, Tharinger, Bricklin, DeMers, and Paavola (1996, p. 14) succinctly summarize the point, “Schools are where children are; therefore, prevention and intervention services can be readily delivered if mechanisms are set up to deliver such services.”

Close conceptual linkages between education (schooling) and mental health form the third issue related to coordination of mental health services. Mental healthcare services are increasingly recognized as both prerequisites of and contributors to student learning (Short & Talley, 1999). Conversely, poor academic achievement may be a frequent cause or contributor to mental health problems. In only one 2-year period (1989–1991), 25 major reports from diverse sources, including the federal government, supported the idea that education and health are intrinsically linked (Carlson et al., 1996). Based on this evidence, there has been a growing movement over the past decade toward both school-based and school-linked health (including mental health) services (Paavola et al., 1996; Short & Talley, 1999; Talley & Short, 1996). A detailed review of the literature on school-based and school-linked health services is beyond the scope of this article. School-based services refer to health services physically located within the school building and provided either by the schools or another agency. School-linked services are not provided within a school, but are associated with a school and complement school programs. Clearly, school psychology has important roles within both of these models.

Illustrative example

An especially good example of school/community collaboration is the Memphis City Schools Mental Health Center (MCSMHC) (Paavola, Fleetis, & Nichol, 1989). The MCSMHC is jointly administered as a service unit within the Memphis public schools, and as a licensed, not-for-profit mental health center. Employing an integrated services model, the MCSMHC provides services that include educational and psychological evaluations; school consultation and staff support; individual, group, and family
therapy; prevention programs, especially for child abuse and substance abuse; homemaker services on behalf of abused or neglected children; and staff development. In recognition of its innovative and high quality work, in 1982 the MCSMHC received the first ever APA Division 16–NASP Award of Excellence in School Psychological Services Programs.

**Implications for the specialty**

Adoption of the public health model as a guiding conceptualization for school psychology would have widespread and substantial implications for school psychology as a specialty area within professional psychology. In the following sections, we discuss these implications for professional practice, evaluation of services, research, and professional preparation. Table 1 summarizes these implications.

**Professional practice**

Although not frequently thought of as common bedfellows, the tenets of the public health model are not absolutely new to school psychology. For example, NASP, in its recent publication, *School Psychology: A Blueprint for Training and Practice II* (Ysseldyke et al., 1997), advocates for the inclusion of data-based decision making, accountability, and prevention and wellness promotion among the domains of a school psychologist’s leadership and function in the schools. School psychology, through the lens of the public health model, would continue to embody those domains. However, by taking the population into perspective and looking at problems more broadly, the public health model can serve to modernize school psychology.

By embracing the public health model in his or her professional practice, the school psychologist will make some significant changes in conceptualizing his or her own professional role. Instead of a client load consisting exclusively of individual students, the school psychologist will consider the school-wide population as a “client” with particular needs. Practitioners will place greater emphases (in terms of time and intellectual resources) on school-wide (i.e., universal) interventions or interventions for “at-risk” students (i.e., selective interventions), while placing somewhat less emphasis on interventions with referred students (i.e., indicated interventions) and substantially less emphasis on individual psychological assessments. As a result of this re-directed focus, school psychologists will have greater involvement with the whole school population, rather than a having near-sole focus on students in special education or those who are nearly eligible for such placement.

**Evaluation of school psychology services**

In applying the public health model to the practice of school psychology, it is necessary to go beyond the traditional form of evaluation (i.e., treatment comparison) to one that considers the entire process of implementation and outcome-based data. Central to evaluation of services through the public health prospective is consideration of changes
in population-wide outcomes. The units of evaluation according to this model would shift from consideration of individual cases to broader outcome domains at the school level. In measuring the effectiveness of public health interventions, the psychologist would consider changes in the epidemiology of the school in the form of increases or decreases in the incidence and prevalence of both positive and negative outcomes. Some examples of

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<tr>
<th>Professional practice and evaluation of services</th>
<th>Under current typical models</th>
<th>Under public health conceptual model</th>
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<tbody>
<tr>
<td>Individual as client</td>
<td>Work focuses on individuals</td>
<td>Population (classroom, school building, school system) as “client”</td>
</tr>
<tr>
<td>Major focus on conducting individual assessments</td>
<td>Nearly sole focus on students in special education or who may be “nearly eligible” for special education</td>
<td>Work focused at building or systems level</td>
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<tr>
<td>Nearly sole focus on students in special education</td>
<td>Intervention activity (when done at all) focused on individually referred children (indicated interventions)</td>
<td>Greatly reduced focus on conducting individual assessments</td>
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<tr>
<td>Evaluation of services is case-focused (either enumerative or outcome-based)</td>
<td>Little, if any, involvement in integrated services for children and youth</td>
<td>School psychologist for the whole school</td>
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**Research**

<table>
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<th>Focus on instrument development and evaluation, and clinical-personality issues</th>
<th>Methodological emphasis on experimental or correlative traditions</th>
<th>Greater focus on large scale data or investigating phenomena at classroom, school, or systems levels</th>
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<td>More inclusion of non-experimental methodologies, such as program evaluation, context-sensitive methods, qualitative methods</td>
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**Professional preparation**

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<th>Little emphasis on organizational psychology or systems theory</th>
<th>Primary emphasis on skills for individual or small group assessment and interventions</th>
<th>Greater emphasis on organizational psychology and systems theory</th>
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<tr>
<td>Primary emphasis on research methodology using inferential statistics and “experimental design”</td>
<td>Greater emphasis on systems-level (classroom, school) consultation skills, and program development competencies</td>
<td>Greater training emphasis on program evaluation methodologies</td>
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potential outcomes might be disciplinary referrals, suspensions and expulsions, grade retention, and placements in less-restrictive special education settings. Some positive outcomes might be improved performance on tests of educational outcomes, increased proportions of students meeting state-mandated criteria, decreases in teacher turnover, improved attendance and heightened numbers of students with special needs reintegrated into the general education environment. Such effects would indicate that the greatest possible number of students within the school population are benefiting from mental health services in the schools, instead of just those students who exhibit academic and behavioral difficulties.

School psychology research

Research has long been a high priority in public health, but the emphases, methodology, and types of research conducted within the model are often substantially different from those of researchers in the basic behavioral sciences. In comparison to basic behavioral science research, public health research tends to focus on problem-solving more than theory; to accent strong main effects over interactions; to emphasize sampling theory and large, relevant samples by contrast to small, convenience samples; to place a greater value on external validity compared to internal validity; and to be more concerned with ES and real-world effects rather than null hypothesis testing (P. Salovey, personal communication, 2000).

From a public health perspective, one of the main criticisms of much of the intervention research, including much of the research underlying the identified evidence-based treatments, is that the research that exists often cannot be applied to the real world to effect change. Proponents of public-health-model research suggest that investigators should begin their research with the goal of developing treatments and interventions that are sensible, feasible, flexible and palatable, and only after this is accomplished should the researcher work towards internal validity (Jensen, Hoagwood, & Trickett, 1999).

The applicability of this model to school psychology is clear. School psychologists work very much in the “real world,” where few problems and few solutions can be narrowed down to a small set of tightly controlled variables. The three most needed areas of school psychology research, as identified by active authors in the specialty (i.e., prevention, classroom management, therapeutic interventions) are areas highly amenable to public-health-model research approaches. However, the most frequent types of research appearing in school psychology journal literature (instrument development and evaluation, clinical-personality issues) tend to be areas in which more “laboratory psychology” types of research are conducted (Strein, Cramer, & Lawser, 1999). Few articles in the existing school psychology literature use large-scale samples, population-derived variables, systemic outcome variables, analysis of nested interaction effects, context-sensitive methodologies, or process analyses of school program implementation. Adding a public-health-model of research to the school psychology knowledge-base would enhance the utility of this research to both practitioners and educational policy-makers and advance the promise of school psychology within the public health sphere.
Professional preparation

Taken in its fullest measure, we are proposing a major change in how school psychology is conceptualized. Such a degree of change implies substantial adjustments in professional preparation. In terms of theoretical and conceptual knowledge bases, substantially greater understanding of organizational psychology and systems theories would be necessary. Similarly, school psychologists would need enhanced skills and competencies in the areas of organizational or systems-level consultation, and in program development. Research competencies would need to be broadened to include greater command of program evaluation methodologies. Graduate programs are not infinitely expandable. Increasing emphases in the areas described above would inevitably require paring some of the present curriculum. Individual graduate programs would likely approach such a redesign differently, depending on the program’s articulated goals.

Conclusion

Historically, scholars have offered a wide variety of “roles and functions” for school psychologists within a broad conceptualizations of school psychology. Advocates have argued for school psychology as applied educational psychology (Bardon, 1983), as a primarily indirect service profession (Gutkin & Conoley, 1990), and as a subspecialty of professional child psychology (Hughes, 1996), among others. In light of critical issues and needs in K-12 education (Baker & Smith, 1997; Burns, Dean, & Jacob-Timm, 2001), criticisms of traditional special education identification and placement (Patton, 1998; Ruediger & Lorance, 1999), and current notions of effective delivery systems for children’s mental health services (US Public Health Service, 1999), we believe that the public health model has the potential to provide a conceptual framework for school psychology that will optimize research and practice in the specialty. Change is a process, not an event (Hall & Hord, 1987, as cited in Rosenfield & Gravois, 1996, p. 62). The changes we are advocating will not come quickly or easily. Let us begin.

References


