Developmental psychopathology can be viewed as a macroparadigm within which to integrate theoretical and empirical contributions stemming from other paradigms such as biomedical, behavioral, psychodynamic, cognitive, sociological, and family systems. By highlighting the interconnections among these different approaches and providing an overarching conceptual map, a macroparadigm of developmental psychopathology can stimulate hypotheses that converge on common issues. In addition to its role in integrating research and theory, a macroparadigm of developmental psychopathology has potential applications for training, prevention, services, and the planning of services for troubled children. Because activities in all these areas are currently fragmented by different professional disciplines, personal philosophies and agendas, sources of support, and types of clientele, it is essential to find common denominators on which such activities can be based. This discussion outlines ways in which developmental approaches can span different professions and settings. (RH)

What is "Developmental" about Developmental Psychopathology?

Thomas M. Achenbach, Ph.D.
Department of Psychiatry
University of Vermont
Burlington, VT 05401

As a graduate student at Minnesota under Norm Garmezy's tutelage in 1963, I naively thought it obvious that our understanding of psychopathology could be advanced by studying it in relation to developmental changes. This seemed most apparent with respect to disorders of childhood and adolescence. Yet, it also seemed apparent with respect to the possible roots of adult disorders in earlier developmental periods and to the differences between disorders occurring at different periods of adult development.

The relevance of development to psychopathology seemed especially compelling in light of the major theories of the day. These theories emphasized the early history of the individual as a source of psychopathology and implied that early events had a marked impact on later development. They disagreed on what the most influential early determinants might be, whether psychodynamic, learning, genetic, or pathophysiological, but none had documented the form that childhood disorders actually took. In fact, anyone hoping to study the developmental course of child and adolescent disorders faced a nosology that until 1968 distinguished only between Adjustment Reaction of Childhood and Schizophrenic Reaction, Childhood Type (DSM-I, American Psychiatric Association, 1952).

Since that time, interest in childhood disorders has grown, spawning numerous distinctions among disorders that are thought to characterize children. DSM-II, DSM-III, and DSM-III-R all introduced diagnostic distinctions that had little prior history or research support. These distinctions reflect implicit assumptions about the nature of childhood disorders, largely extrapolated from concepts of adult disorders. Although research on adults undoubtedly offers useful concepts and data, it tends to portray childhood disorders as miniature versions of adult disorders.

An example is the recent quest for childhood depression. Although it was essential to overcome the long neglect of depressive affect in children, the quest focused largely on inferred depressive illnesses for which there was little independent evidence. Instead of assessing the prevalence and patterning of depressive problems in children of different ages, clinical theorists equated a broad array of behavioral problems with depression (e.g., Cytryn & McKnew, 1979; Frommen, 1967; Weinberg, Rutman, Sullivan, Penick, & Dietz, 1973). As a result, many children were diagnosed as suffering from depressive illnesses in the absence of validated criteria for what constituted childhood depression and how it could be distinguished from other problems.
The preoccupation with childhood depression has been followed by a quest for childhood anxiety disorders, largely as a result of new interest in adult anxiety disorders (Achenbach, 1985; Tuma & Maser, 1985). Because little is known about the relations between anxiety problems in children and adults, it is certainly important to study these relations. Yet it would be misleading to assume either that adult forms of anxiety disorders underlie children's problems or that childhood expressions of anxiety necessarily portend specific adult anxiety disorders. Some childhood anxiety problems at certain developmental periods may well be early manifestations of certain adult anxiety disorders, while others may be transient responses to situational or developmental stress. But we do not yet know how to tell which childhood problems, assessed in what manner, during which developmental periods are precursors of which adult disorders. This is true for many conditions of childhood, where we need to consider both the current developmental context and the possibilities that current problems will interfere with subsequent development or that they are early manifestations of disorders that will crystallize at later developmental periods. How can we conceptualize the many possible relations between development and psychopathology?

In my view, the concept of "developmental psychopathology" highlights the value of studying psychopathology in relation to the major changes that occur across the life cycle. It does not dictate a specific theoretical explanation for disorders, their causes, or their outcomes. Instead, it suggests a conceptual framework for organizing the study of psychopathology around milestones and sequences in areas such as physical, cognitive, social-emotional, and educational development. Its heuristic value is analogous to that of terms such as "learning," "cognition," "genetic," and "biological." The utility of such terms does not stem from prescriptive definitions of a field, but from focusing attention on connections among phenomena that otherwise seem haphazard and unrelated.

To capitalize on developmental psychopathology's potential for expanding rather than restricting our thinking, it is better viewed as a guide to studying important problems than as a source of ready-made answers. Accordingly, it can be thought of as a "macroparadigm" to distinguish it from paradigms and theories pertaining to more limited sets of variables, methods, or explanations. The first slide illustrates relations between developmental psychopathology viewed in this way and several more specific paradigms and theories relevant to development and psychopathology. The biomedical, behavioral, psychodynamic, and other paradigms are designated as "microparadigms" only in the sense of dealing with one facet of phenomena whose linkages are not apt to be adequately dealt with by any one of them alone. Most of them cover large domains, but each can be viewed as a subset of methods, constructs, and theories that may contribute to the developmental study of psychopathology.

Insert Fig. 1 about here
The location of the developmental psychopathology box above the others in the slide does not mean that they are subordinate to developmental psychopathology. On the contrary, each microparadigm and theory has a life of its own, apart from its relation to the macroparadigm of developmental psychopathology. In fact, several of the microparadigms would serve as macroparadigms in other hierarchical schemes. For purposes of studying psychopathology in relation to development, however, it is helpful to organize the many potentially relevant paradigms and theories around a central conceptual structure. This structure should provide a framework for integrating diverse ideas and findings that would otherwise appear unrelated. By highlighting interconnections and providing an overarching conceptual map, it should also stimulate hypotheses that converge on common issues. Even though researchers inevitably specialize within particular microparadigms and theories of the sort listed in the slide, reference to a macroparadigm of developmental psychopathology can enhance the value of the more specialized contributions.

The potential applications of developmental psychopathology are not limited to basic research. Instead, the products of research and the overarching conceptual framework should help us prevent childhood disorders whenever possible and, when not possible, should help to improve the development of troubled children. The second slide outlines some applications of developmental psychopathology to research, training, prevention, service, and planning. I'll outline some agendas suggested by the overview in the slide, but these agendas are subject to change as knowledge and services advance.

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Insert Fig. 2 about here
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Applications to research

In contrast to the microparadigms and theories listed in the previous slide, the research applications of developmental psychopathology in the slide concern areas that cut across microparadigms and theories. Work in these areas requires contributions from multiple microparadigms and, in turn, may help to advance individual microparadigms.

As an example, Specific Area #1 in the slide—assessment—concerns the identification of the distinguishing features of individual cases or disorders. Procedures drawn from several paradigms are potentially relevant to assessment, such as biomedical tests for physical abnormalities, behavioral assessment, interviews, tests of cognitive development, etc. If these procedures are properly standardized and normed, they should be able to identify ways in which a particular child differs from normative reference groups.

To identify individual differences that validly discriminate between different kinds of psychopathology, assessment must be linked to taxonomic
constructs (Area 2 in the slide). To be effective, taxonomic constructs require population-based epidemiological data (Area 3) on the distribution of problems in order to determine whether a child's problems are clinically deviant. This determination also requires developmental data (Area 4) to indicate which problems typify particular developmental periods, as well as prognostic data (Area 5) to distinguish between problems that are transient versus those that are more persistent.

Research on assessment, taxonomy, epidemiology, development, and prognosis can, in turn, facilitate research on etiology (Area 6) and treatment (Area 7) by providing more precise operational definitions of disorders and better procedures for evaluating their outcomes. Conversely, discovery of specific etiologies and optimal treatments can pinpoint characteristics that are the most crucial for assessment, taxonomy, and epidemiology.

Applications to training

Because multiple research and clinical specialties are involved in the study and treatment of psychopathology, no single core training curriculum is shared by all the relevant professionals. To advance the developmental study of psychopathology and its applications to helping children, it would be desirable to have a common core of concepts and goals to guide the training of professionals concerned with troubled children. By specifying a model set of training components for the highest level trainees, such as child psychiatrists and Ph.D. clinical child psychologists, we could reduce the fragmentation that now impedes communication and limits the supply of broadly trained professionals. If the model training components were used to set standards for the highest levels of training, trainees and programs could be evaluated in terms of their deviation from the standards. For child psychiatrists and psychologists, omissions of key training components would be considered deficiencies to be remedied. Some key components of training suggested by developmental psychopathology include normal development, standardized assessment procedures, specific disorders of childhood and adolescence, organic development and abnormalities, and a variety of interventions.

Applications to prevention

Prevention is an appealing concept that has not yet produced much measurable results with respect to psychopathology. Mental health professionals are handicapped by a lack of firm evidence on causal relations between potentially manipulable independent variables and important outcome variables. Some phenomena, such as child abuse, are obviously harmful and should be stopped. Yet, despite the widespread publicity and efforts against child abuse, little is yet known about how to prevent it or how best to handle it when it does occur.

Research is under way on characteristics of both the abusers and children, but the macro paradigm of developmental psychopathology may be helpful in linking research questions, findings, training, and services. For example, the stimuli for abuse, the form of abuse, its consequences, and the appropriate remedies are likely to depend on both the developmental history of the abuser and the developmental history and level of the victim. It is often reported that abusive adults were themselves abused as children.
It should thus not be surprising if a family culture of abuse is transmitted across generations, but it is unlikely that every abused child becomes an abusive adult or that every abusive adult was an abused child.

Even when abuse is legally proven and intensive interventions are available for the abusive parents, they are often unwilling to accept help (see Reid & Kavanagh, 1985). Constructing an appropriate conceptual schema that will generate effective preventive and therapeutic efforts thus remains a major challenge for mental health professionals.

**Applications to services**

Services for troubled children date back to the beginning of the twentieth century. Improvements are needed, however, in the distribution, accessibility, coordination, and evaluation of services. Few communities offer a clearcut continuum of care, whereby the initial identification of problems leads directly to the most appropriate type and level of help. Instead, a child manifesting problems may be seen at one point by a practitioner who favors one kind of assessment and intervention, but later by practitioners of other persuasions. Although extensive records may be compiled at each step, the differences in approach often preclude integrating data from one step to the next. This duplicates costly efforts and makes it hard to track changes in the child's functioning from one point to another.

To make better use of existing services and to provide a better focus for new ones, it would be helpful to have a common core of procedures and concepts analogous to that discussed earlier for training. Because no single treatment model is appropriate for all facets of all disorders, it would be desirable for the common core to comprise assessment procedures and concepts that are widely applicable, unrestricted by the philosophies of individual practitioners.

The developmental psychopathology macroparadigm implies a normative-developmental approach that compares the problems and competencies of individual children with those of normative samples of agemates. Standardized assessment should be linked to taxonomic procedures that reflect syndromes or patterns of problems, population-based epidemiological data, and data on developmental differences in problems and competencies. Assessment should also take account of differences between a child's functioning in different contexts, as reported by different informants. To illustrate this approach, the next slide lists five major axes relevant to assessment of most child and adolescent disorders. Axis I (parent reports), Axis II (teacher reports), and Axis V (direct assessment of the child) reflect the type of normative-developmental assessment of problems and competencies implied by developmental psychopathology. Two other important facets of child assessment are represented by Axis III (standardized cognitive assessment) and Axis IV (biomedical assessment).

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Insert Table 1
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Like the prevention of psychopathology, the planning of mental health services is an appealing concept that is honored more in the breach than in the observance. In most of the United States, the kinds and distribution of services for children reflect political vicissitudes, fads, and market forces more than systematic planning based on direct assessment of children's needs.

The developmental psychopathology macroparadigm could contribute to the aspects of planning listed in the slide by providing different agencies with common focal points for identifying the children to be served. One obvious focal point would be the age of children, with pediatric, welfare, and protective services usually having the main responsibility for infants, joined thereafter by mental health, education, and juvenile courts. The agencies relevant to each major age period—such as infancy, preschool, elementary school, and adolescence—could then collaborate in obtaining population-based data using standardized assessment procedures.

Population-based data are essential for accurate projections of needs and for planning appropriate services. Such data are also needed for effective advocacy in government agencies and legislatures, where it is otherwise hard to make a strong case for children's mental health services. Furthermore, if agencies could collaborate in using a common set of normative-developmental assessment procedures to ascertain the distributions of problems in general population and referred samples, this would provide them with a basis for coordinating their planning, seeking funding, evaluating services in light of documented needs, and designing new services to fill unmet needs.

Conclusions

To conclude, I have outlined a variety of endeavors relevant to the study of psychopathology from a developmental perspective. With an orientation toward future possibilities like that so effectively advocated by Norm Garmezy (1982), I have outlined a broad view of developmental psychopathology highlighting the connections between diverse paradigms, theories, and activities, including research, training, prevention, services, and planning.

What is "developmental" about developmental psychopathology? In my view, the current value of the developmental study of psychopathology lies less in its capacity for supplanting existing theories than in its potential for bringing conceptual order out of a welter of contrasting concepts and activities. Its most compelling applications are in the period from birth to maturity, but it is potentially applicable to later periods as well.
References


DEVELOPMENTAL PSYCHOPATHOLOGY

Examples of Microparadigms

BIOMEDICAL
1. Genetic
2. Infectious
3. Neurological
4. Biochemical
5. Neurotransmitters

BEHAVIORAL
1. Reinforcement
2. Modeling
3. Operant
4. Respondent

PSYCHODYNAMIC
1. Psychosexual development
2. Personality structure
3. Unconscious determinants

SOCIOLOGICAL
1. Anomie theory
2. Lower class culture theory

FAMILY SYSTEMS
1. Child's problems as symptoms of family stress
2. Family causes of anorexia

COGNITIVE
1. Piagetian
2. Information processing
3. Social cognition
DEVELOPMENTAL PSYCHOPATHOLOGY

Examples of Activities

RESEARCH

1. Assessment
   2. Taxonomy
   3. Epidemiology
   4. Developmental course
   5. Prognosis
   6. Etiology
   7. Treatment

TRAINING

1. Goals
   2. Common core
   3. Professional models
   4. Subject matter
   5. Practical experience

PREVENTION

1. Identify causes
   2. Devise preventive techniques
   3. Evaluate outcomes

SERVICE

1. Common core for assessment
   2. Case identification
   3. Prognostication
   4. Intervention
   5. Outcome
   6. Follow-up

PLANNING

1. Needs assessment
   2. Advocacy
   3. Service development
   4. Funding
   5. Evaluation of services
### EXAMPLES OF MULTIAXIAL ASSESSMENT

<table>
<thead>
<tr>
<th>Parent Data</th>
<th>Teacher Data</th>
<th>Cognitive Test Data</th>
<th>Medical Data</th>
<th>Direct Assessment of Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CBCL</td>
<td>1. TRF</td>
<td>1. Ability</td>
<td>1. Neurological</td>
<td>1. DOF</td>
</tr>
<tr>
<td>2. Interview</td>
<td>2. Interview</td>
<td>2. Achievement</td>
<td>2. Relevant Illnesses</td>
<td>2. YSR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Speech and Language</td>
<td>4. Medications</td>
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