

Prevention of Mental Disorders and Public Mental Health: A Life Course Developmental Epidemiological Framework

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Public Health Definition of Mental Disorder Prevention

- Mental disorder prevention aims at “reducing incidence, prevalence, recurrence of mental disorders, the time spent with symptoms, or the risk condition for a mental illness, preventing or delaying recurrences and also decreasing the impact of illness in the affected person, their families and the society” (Mrazek & Haggerty, 1994).

Defining Mental Health Promotion

- “Mental health promotion activities imply the creation of individual, social, and environmental conditions that enable optimal psychological and psychophysiological development. Such initiatives involve individuals in the process of achieving positive mental health, enhancing quality of life and narrowing the gap in health expectancy between countries and groups. It is an enabling process, done by, with and for the people. Prevention of mental disorders can be considered one of the aims and outcomes of a broader mental health promotion strategy (Hosman & Jané-Llopis, 1999).”

A Concept of Prevention That Reflects the Integration of Four Perspectives

- Life course development
- Sociology
- Public Health
- Epidemiology

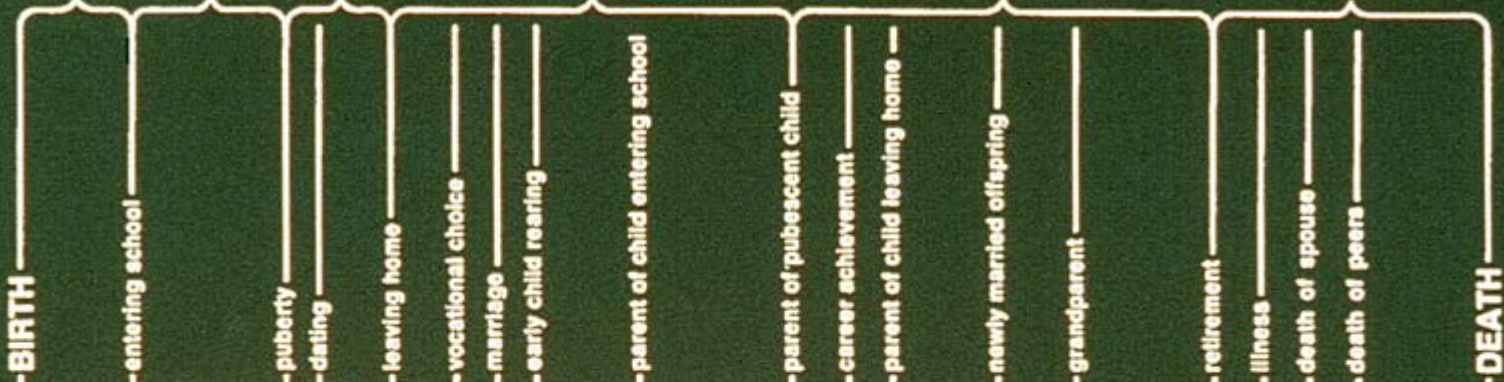
Life Course Social Field Framework: Fundamental Tenets and Elements

- Individuals seen as facing various developmental tasks and challenges across the major transition points over the life span
- Tasks and challenges vary within the relevant social fields or contexts in which development unfolds

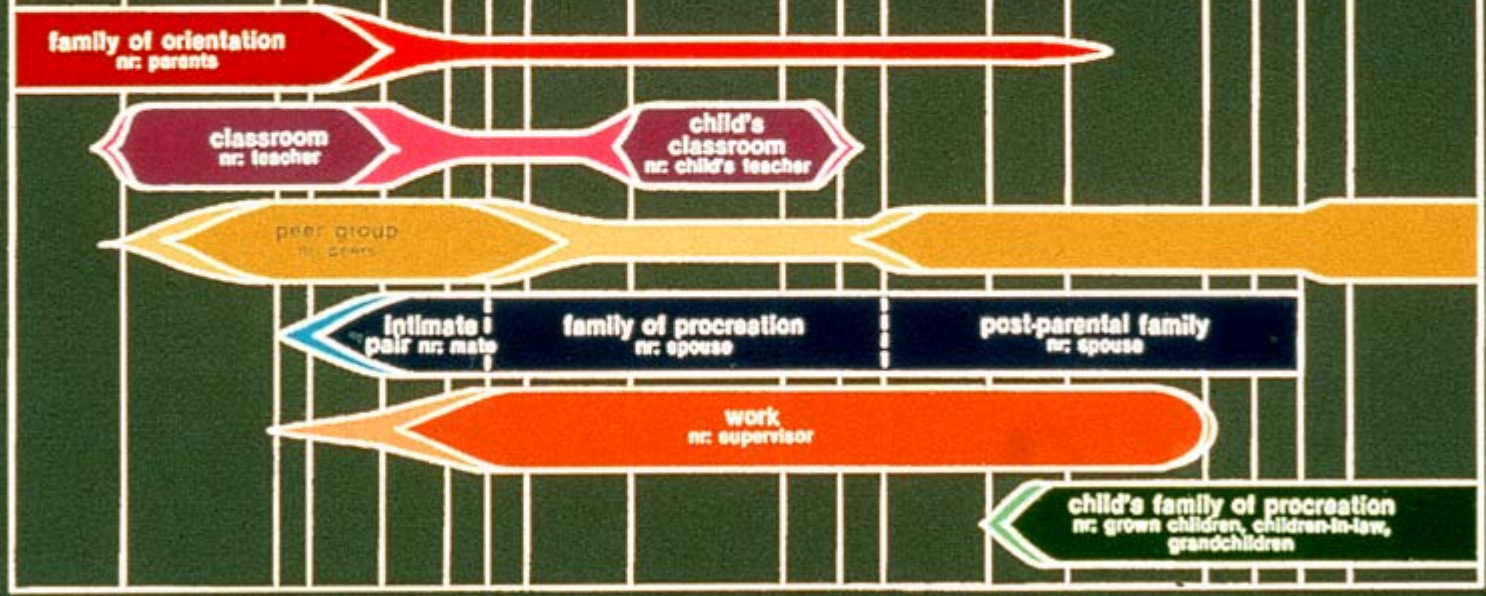
stages of life

Infancy and early childhood middle childhood adolescence early adulthood middle age old age

major life changes



social fields and natural raters



LIFE COURSE—SOCIAL FIELD CONCEPT

Kellam, S.G., et al. (1975). Mental Health and Going to School: The Woodlawn Program of Assessment, Early Intervention, and Evaluation. University of Chicago Press. Revised 1989

Life Course Social Field Framework: Fundamental Tenets and Elements (cont.)

- Specific social task demands the individual confronts through each stage of life are defined by natural raters.
- Natural raters not only define the tasks but rate the adequacy of performance of the individual.

Life Course Social Field Framework: Fundamental Tenets and Elements (cont.)

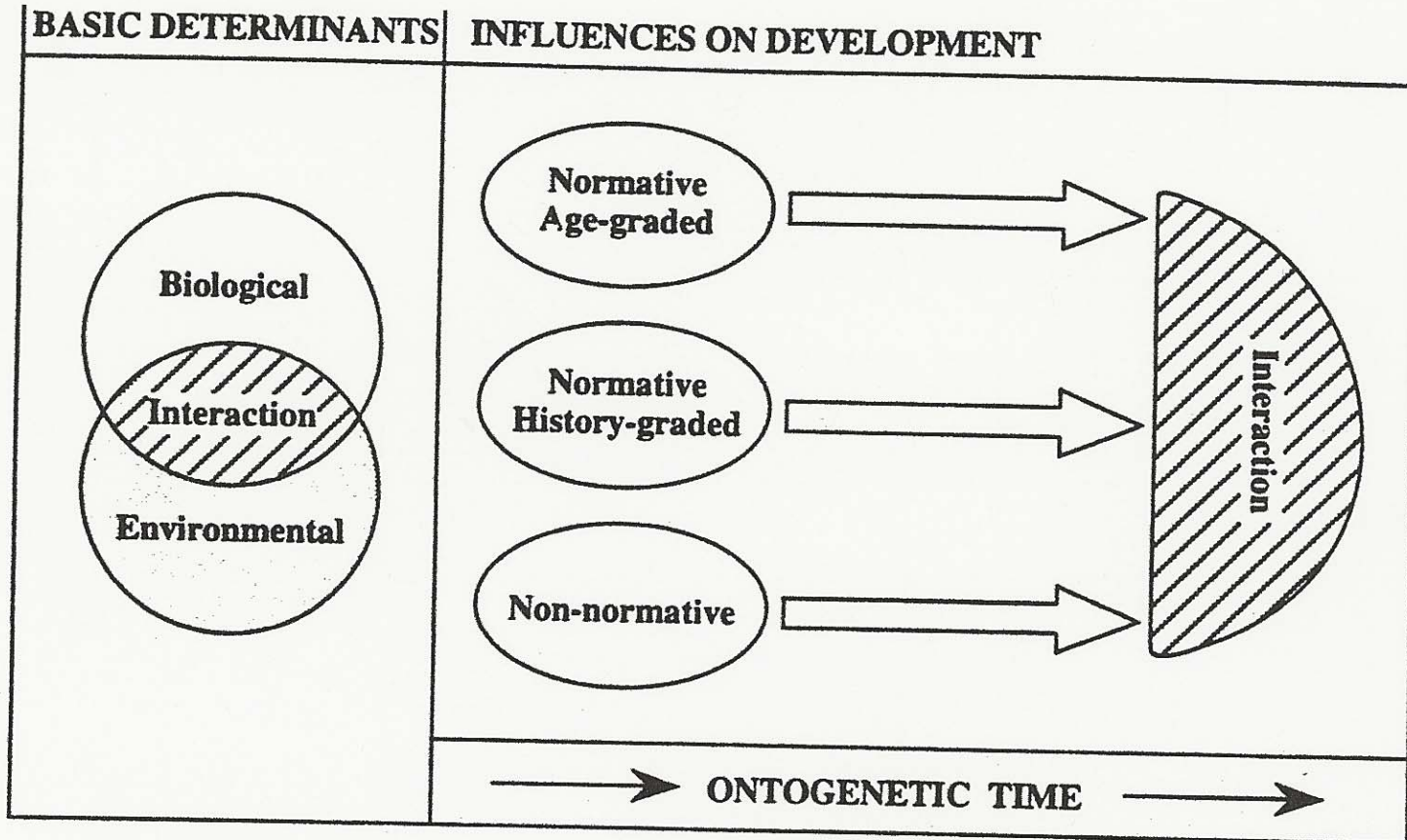
- Social adaptation is the response to these tasks and challenges.
- Social adaptational status (SAS) is the judgment of the adequacy of the response by the natural raters.

Life Course Social Field Framework: Fundamental Tenets and Elements (cont.)

Tasks and challenges co-determined by:

- Normative age-graded (ontogenetic) influences
- Normative history-graded influences (cohort effects)
- Non-normative life events

Developmental Influences



Life Course Social Field Framework: Fundamental Tenets and Elements (cont.)

- Psychological well-being (PWB) refers to the individual's internal state.
- Psychological well-being is in part determined by an individual's perceptions of his/her successes and failures in meeting the demands of the natural raters.
- The relationship between social adaptational status and psychological well-being is a reciprocal one.

Organizational Approach to Development: Basic Principles

- Competence at one developmental period will exert a positive influence toward achieving competence at the next period
- Early competence also exerts a subtle influence toward adaptation throughout the life span since each developmental issue is of continuing importance throughout the life cycle
- The failure to achieve adaptation at one period makes adaptation that much more difficult at the next and later stages of development
- Many factors that may mediate between early and later adaptation or maladaptation may permit alternative outcomes

Normal Development

- Marked by integration of earlier competencies into later modes of function
- With the earlier competencies remaining accessible, ready to be activated and utilized during times of stress, crisis, novelty, and creativity
- Thus, early adaptation tends to promote later adaptation and integration and that greater flexibility or motility in terms of hierarchical integration facilitates this process

Pathological Development

- Lack of integration of the social, emotional, and cognitive competencies that are important to achieving adaptation at a particular developmental level
- Since early structures often are incorporated into later structures, early deviation or disturbance in functioning may ultimately cause much larger disturbances to emerge later on
- Pathology may be caused by a lack of motility in terms of hierarchical integration
- Or else an inability to redifferentiate after regression in response to stressors

Preventive Intervention Trials Serve a Dual Purpose

- 1) Test intervention effectiveness
- 2) Test developmental theory

Theory of Intervention Impact Drives Assessment Framework: Assess Potential Sources of Variation in Intervention Response

Including factors operating at the level of:

- Individual -
- Family -
- School -
- Peer Group -
- Workplace -
- Neighborhood/Community -

and intervention implementation & participation

Assess Potential Sources of Variation in Intervention Response (cont.)

- Design the next stage of intervention to deal with those sources of variation

Important to Understand the Related Concepts of:

- Attributable Risk
- Preventive Fraction
- Equifinality
- Multifinality

Attributable Risk

- The amount or proportion of disease incidence (or disease risk) that can be attributed to a specific exposure

Level of Risk and Proportion of Population Receiving Preventive Interventions, with Illustrative Examples

UNIVERSAL:

Good prenatal and well-baby care to improve cognitive and social emotional development

SELECTIVE:

Programs for people experiencing major stressors, such as job loss, divorce, and natural disaster

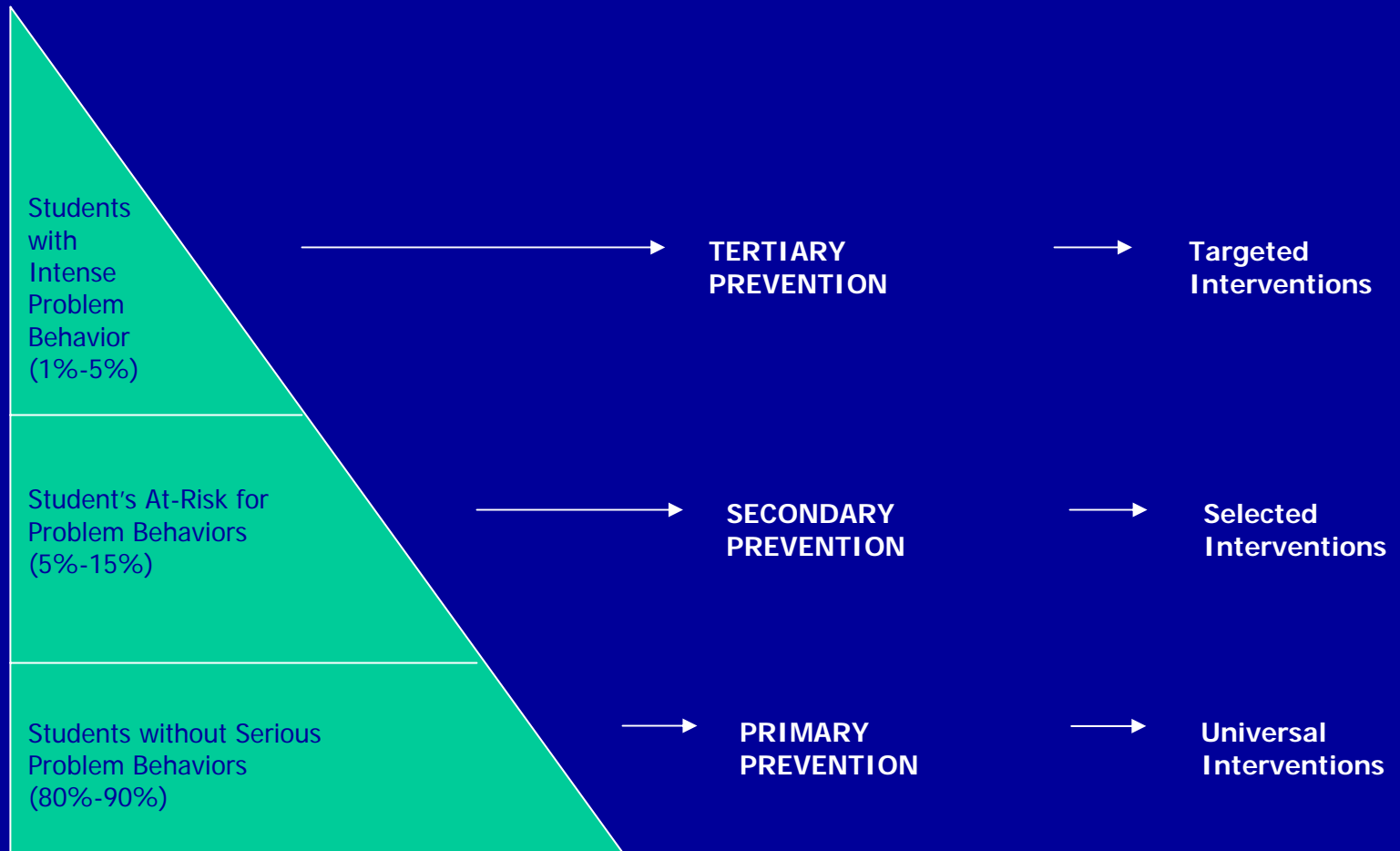
INDICATED:

Cognitive training for children with subclinical depressive symptoms

RELAPSE AND COMORBIDITY:

Relapse prevention for patients treated for depression

Theoretical Perspective



(Walker et al., 1996)

A Nested Approach to Preventive Intervention Programming Across the Life Course

A Nested Approach to Preventive Intervention Programming Across the Life Course (cont.)

- Universal, selected, and indicated interventions are linked in a seamless approach aimed at the reduction of mental disorders and substance use.

A Nested Approach to Preventive Intervention Programming Across the Life Course (cont.)

- Complimentary sets of universal interventions are implemented at critical points in development (e.g., the transition to elementary, middle, and high school).

A Nested Approach to Preventive Intervention Programming Across the Life Course (cont.)

- Selective and indicated interventions are then targeted at those who either fail to respond to the universal interventions, and/or have begun to demonstrate signs of disorder.

A Nested Approach to Preventive Intervention Programming Across the Life Course (cont.)

- Universal interventions aimed at institutions responsible for the socialization of coping with normative developmental challenges (e.g., the transition to school)

A Nested Approach to Preventive Intervention Programming Across the Life Course (cont.)

- Universals most likely to help those with marginal skills in coping with normative challenges
- May in turn make these marginally competent individuals less vulnerable to non-normative life events

Universal Can Serve As:

- A comprehensive screen for those in greater need as opposed to cross-sectional point in time assessments
- Reduce the number of individuals in need of more intensive services
- A docking mechanism for selected, indicated, and treatment interventions

Effectiveness

- In the usage made standard among epidemiologists by A.L. Cochrane (1909-1988), effectiveness is a measure of the extent to which a specific intervention, procedure, regimen, or service, when deployed in the field in routine circumstances, does what it is intended to do for a specified population.

Efficacy

- Extent to which a specific intervention procedure, regimen, or service provides a beneficial result under ideal conditions. The determination of efficacy is typically based on the results of a randomized control trial.

The Prevention Research Cycle

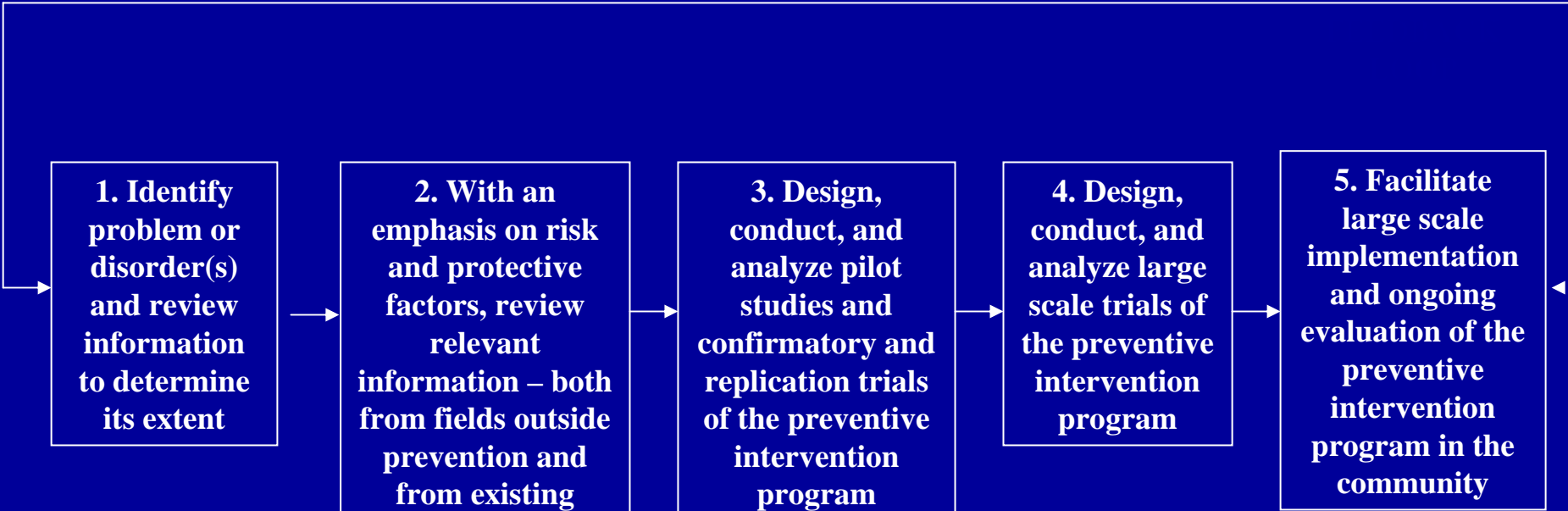
1. Identify problem or disorder(s) and review information to determine its extent

2. With an emphasis on risk and protective factors, review relevant information – both from fields outside prevention and from existing preventive intervention research programs

3. Design, conduct, and analyze pilot studies and confirmatory and replication trials of the preventive intervention program

4. Design, conduct, and analyze large scale trials of the preventive intervention program

5. Facilitate large scale implementation and ongoing evaluation of the preventive intervention program in the community



A Phased Approach for Fielding a Community-Based Preventive Intervention Trial

Phase 1

1. Meeting with the leaders of the institution wherein the intervention is based and establishing relevance of the proposed work to the needs of the institution and the population it serves.
2. Establishing the feasibility of conducting the intervention and its evaluation within the chosen setting
3. Determining the acceptability of the proposed intervention to the institution and the targeted individuals in the community
4. Establishing the relevance of the outcome assessment to the institution and the population it serves

A Phased Approach for Fielding a Community-Based Preventive Intervention Trial

Phase 1

5. The organizational structure(s) within the institution responsible for implementing and maintaining services and programs, which are most consistent with the nature and goals of the intervention
6. Determining the mechanisms and organizational structures and resources necessary for the interventions to continue, if successful, after the research is completed

A Phased Approach for Fielding a Community-Based Preventive Intervention Trial

Phase 2

1. Review data collected from focus groups during Phase 1, then based on this feedback, refine the intervention and assessment protocols
2. Pilot test each intervention with a small number of participants
3. Pre- and post-test assessments conducted on the key outcomes measured
4. Assessments of intervention implementation fidelity and the barriers to implementation/participation

A Phased Approach for Fielding a Community-Based Preventive Intervention Trial

Phase 2

5. Focus groups held with interveners to obtain feedback on ways to improve intervention protocols, including training and supervision protocols
6. Intervention recipients give feedback on relevance, acceptability, cultural sensitivity, and effectiveness of intervention components and identify specific areas of dissatisfaction

A Phased Approach for Fielding a Community-Based Preventive Intervention Trial

Phase 3

1. Integrate findings from Phases 1 & 2 with the goal of refining the training supervision, implementation, and intervention protocols
2. Pilot study of each of the intervention and assessment components carried out with a larger number of participants
3. A control or comparison condition added to detect between and within group change
4. Focus groups held with participants and interveners to determine the need for further refinements in the protocols

A Phased Approach for Fielding a Community-Based Preventive Intervention Trial

Phase 3

5. Cost benefit analysis conducted
6. If the effect sizes/benefits relative to the costs are promising, R01 applications for randomized control trials submitted

Summary of General Themes

- Life course developmental perspective
- Multidisciplinary research
- Parallel preventive interventions
- Community-based public health approach
- Multistage developmental evaluation
- Mental health and mental disorder

Life-Course Developmental Perspective

- Concerned with the description, explanation, and modification (optimization) of developmental processes in the human life course from conception to death
- Life course changes take many forms and vary in their directionality, time course, degree of intraindividual and interindividual variability, and malleability

Key Concepts of a Life Course Developmental Approach

- Development is a lifelong, active, dynamic process
- Involves multiple pathways, with multiple antecedents and multiple consequences
- Involves both risk and protective influences
- There are both continuities and discontinuities in development over the life span
- Development is a gain-loss dynamic

Representative Multistage Sampling and Assessment

- Prevention research often requires precise microanalytic assessments of subgroups within specified populations.
- This can be accomplished economically through multistage sampling and assessment.

Prevention Research

Specific early antecedents of later problem outcomes have been identified. Now the questions become:

- Can we improve those early antecedents?
- If so, are the problem outcomes reduced?

Aggressive Behavior

As early as first grade, aggressive behavior is a confirmed antecedent of later:

- Antisocial and violent behavior
- Criminal behavior
- Heavy drug use, including I.V.
- School dropout

Depressive Symptoms

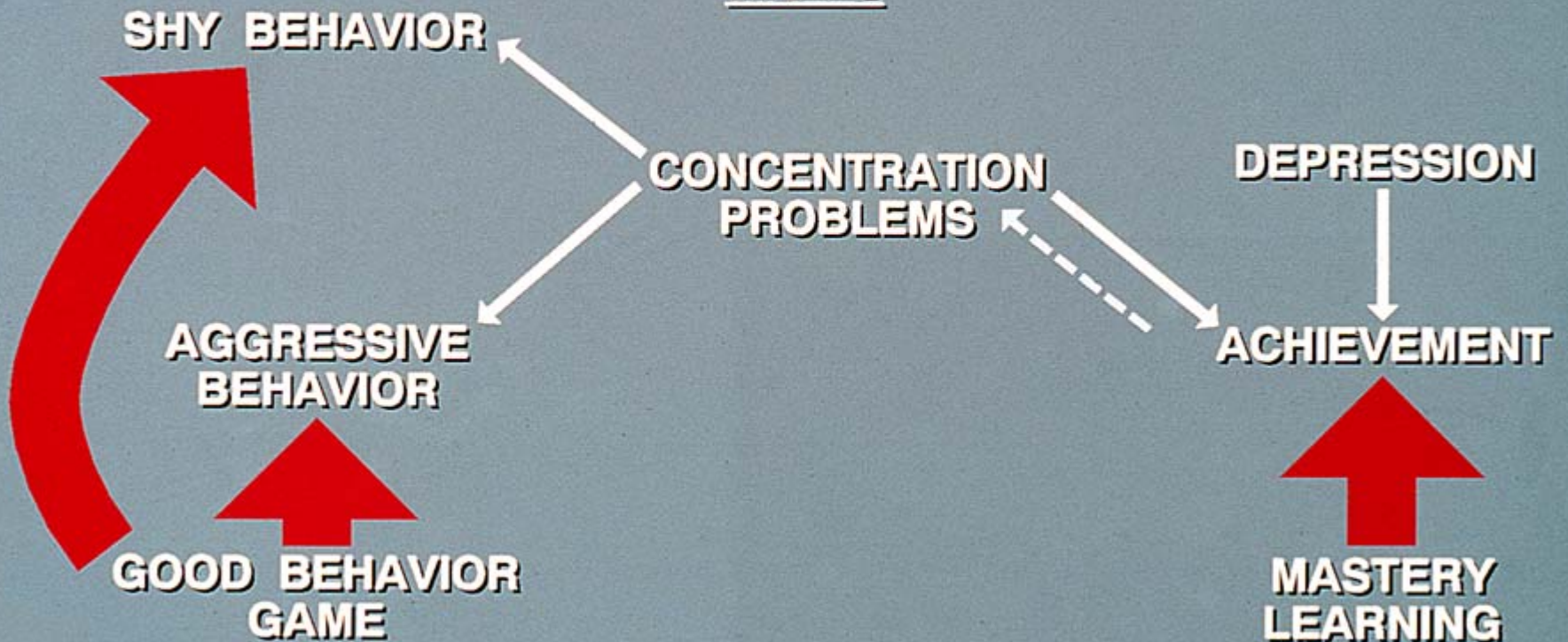
- In first grade, many children have high levels of depressive symptoms.
- High levels of depressive symptoms lead to poor achievement.
- In turn, poor achievement leads to high stability of depressive symptoms.

Baltimore Prevention Program – First Generation

- 19 schools in Eastern Baltimore
- 5 urban areas varying in SES and ethnicity
- 2,311 children and their families from two successive cohorts of first-grade children
- 64% African-American, 29% White
- Random assignment of children and classrooms
- Proximal target: poor academic achievement
- Proximal target: aggressive behavior

COURSE OF CLASSROOM SOCIAL ADAPTATIONAL STATUS AND DEPRESSION FROM FALL TO SPRING OF FIRST GRADE

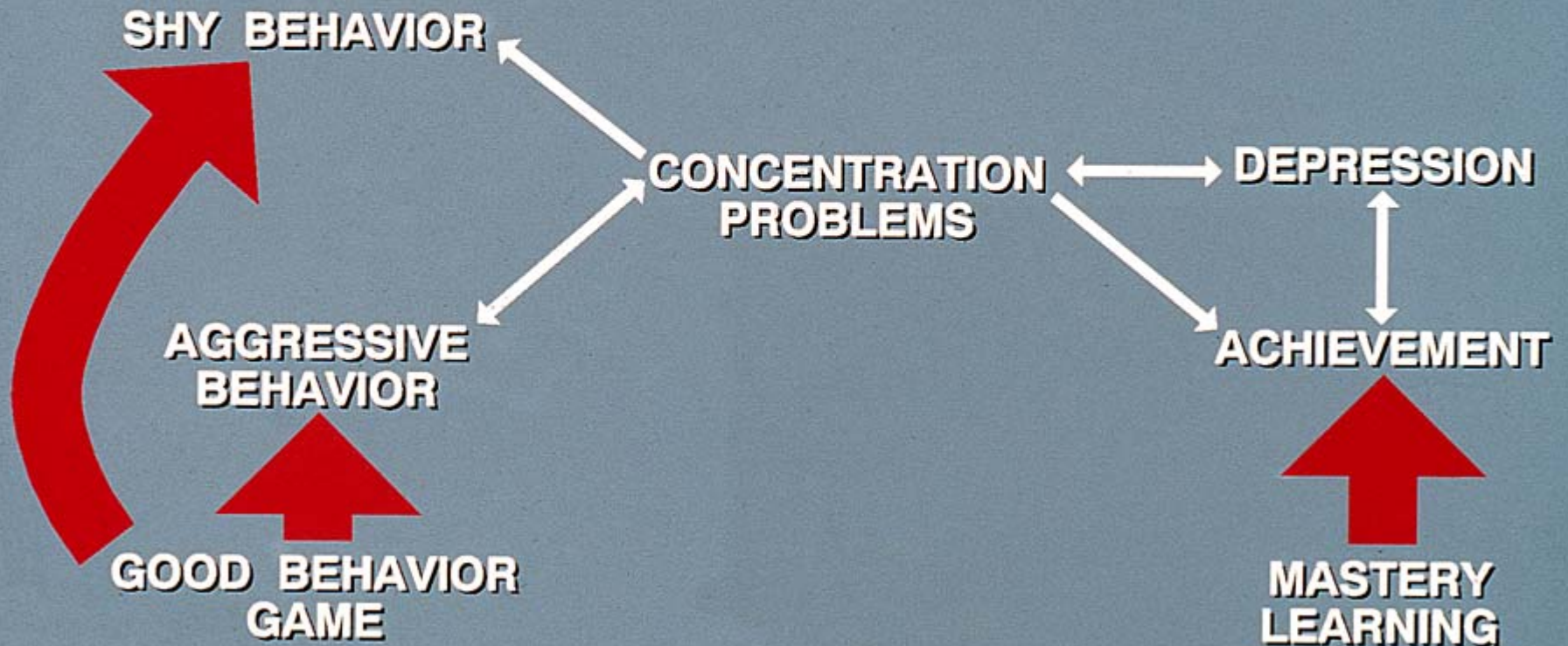
MALES



Cohort I 1985-1986

COURSE OF CLASSROOM SOCIAL ADAPTATIONAL STATUS AND DEPRESSION FROM FALL TO SPRING OF FIRST GRADE

FEMALES



Cohort I 1985-1986

Impact on Achievement and Depressive Symptoms

Proximal Target

- Mastery Learning led to increased achievement

Distal Target

- Increased achievement led to reduced depressive symptoms

Impact on Aggressive Behavior

Proximal Target

- The “Good Behavior Game” led to decreased aggressive behavior

Distal Target

- Decreased aggressive behavior led to reduced tobacco use and delayed initiation of drug use

Representative Multistage Sampling and Assessment

- Prevention research often requires precise microanalytic assessments of subgroups within specified populations.
- This can be accomplished economically through multistage sampling and assessment.

First-Stage, or Population-Based, Measures

Serve three key functions in our developmental epidemiological field trials:

1. Provide measures of intervention effects and outcomes
2. Used to identify individuals from the population in need of selected or indicated interventions or treatment
3. Provide the needed bridge for linking developmental epidemiology to studies based on more frequent or precise observations of smaller samples

First-Stage Methods of Assessment of Early Maladaptive Behavioral Responses and Depression and Anxiety

- Teacher ratings of child behavior
- Classmate rating of child behavior and feelings
- Direct observation of classroom behavior
- Child self-report of depression, anxiety, drugs, and antisocial behavior
- Standardized achievement test scores and school attendance

First-Stage Assessment Methods

Advantages:

- Ecologically proximate
- Relatively brief and inexpensive
- Minimal training required to administer

But:

- Lack precision

Second-Stage Methods of Assessment of Psychiatric Status

- Diagnostic Interview for Children and Adolescents
- Attention and Neuropsychological Functions
 - Continuous Performance Test
 - WISC-R subtests (Coding, Arithmetic, Digit Span)
 - Digit Cancellation
 - Wisconsin Card Sorting Test

Third-Stage Methods of Assessment of Psychiatric Status

- Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS)
- Neuropsychological and neurophysiological measures

Second- and Third-Stage Assessment Methods

Advantages:

- Added precision

But:

- Ecologically distal
- More time consuming and costly
- Require extensive training to administer

Multistage Sampling

- An important strategy for maximizing efficiency in epidemiological research
- Conserves resources by using efficient assessments of large population-based probabilistic samples and more expensive and burdensome assessments on smaller, yet representative sub-samples
- Data from first-stage measures can be used to draw smaller samples for studies requiring more frequent and comprehensive measures