

Research on child mental issues in the field of prevention

Helmut Remschmidt*

1. **Mental disorders / Classification, developmental aspects**
2. **Epidemiology and time trends**
3. **Types and goals of preventive interventions: risk factors and protective factors**
4. **Prevention programs**

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A Concept of Disease/Disorder

"A psychopathological disorder can be described as a state of involuntarily disturbed functions characterized by a more or less clearly defined begin, course and end preventing a child or an adolescent from taking an active part in his age-appropriate life and developmental tasks" (Remschmidt, 1988)

Multiaxial System According to ICD-10

Axis 1: Clinical psychiatric syndromes

Axis 2: Specific disorders of psychological development

Axis 3: Intellectual level

Axis 4: Medical conditions

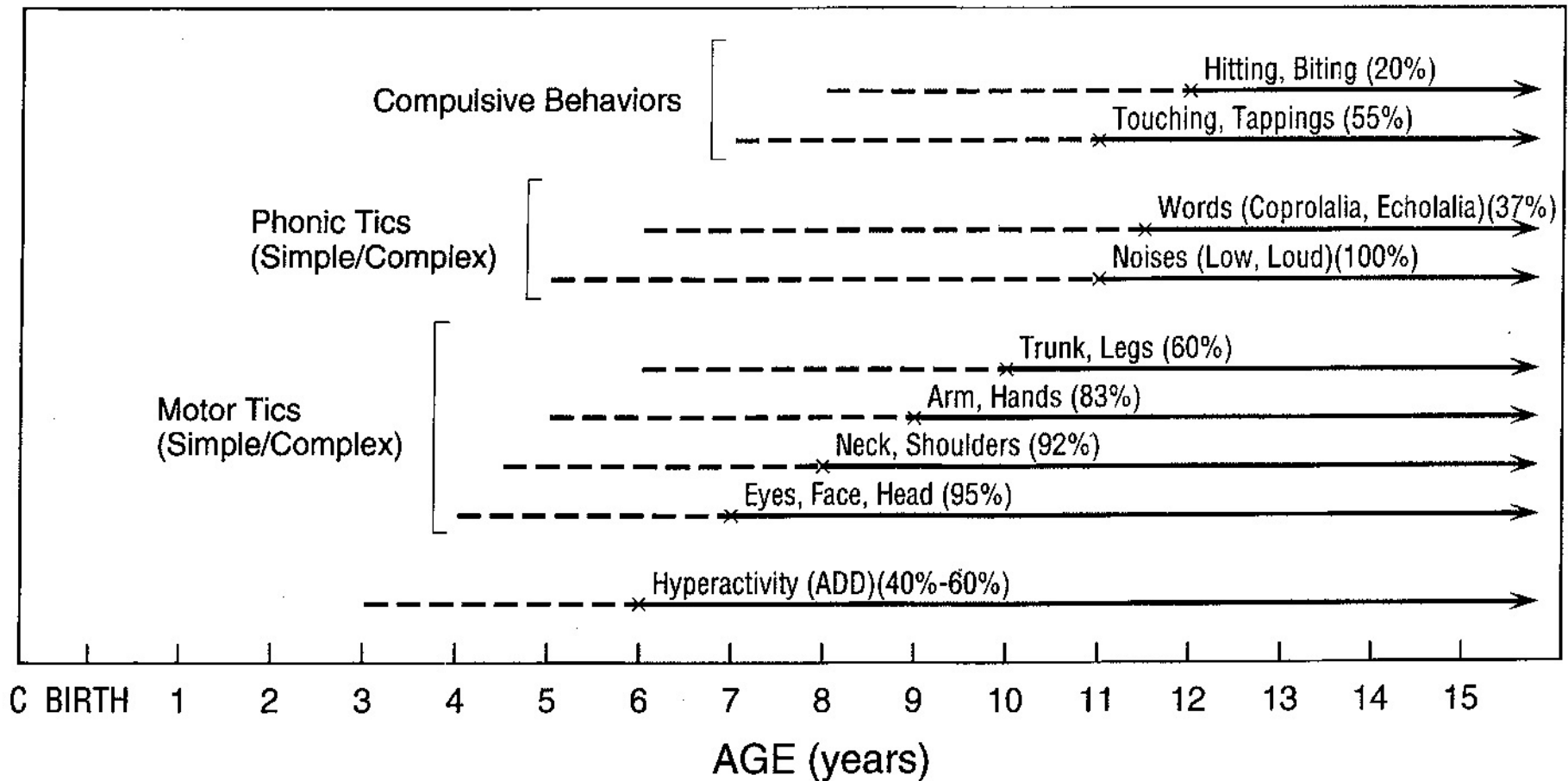
Axis 5: Associated abnormal psychosocial situations

Axis 6: Global assessment of psychosocial disability

Potential Relationship Between Psychopathology and Developmental Tasks (Garber, 1984)

Psychopathological disorder	Developmental tasks
Separation anxiety	Object permanence, attachment
Depression	Differentiation of self, self esteem, social comparison
Suicide	Concept of death, time perspective (future)
Conduct disorder, Undersocialized	Moral development
Aggressive	Perspective-taking, empathy
Impulsivity	Delay of gratification
Oppositional disorder	Autonomy, individuation
Schizoid disorder	Peer relation, friendship patterns

Natural History of Tics and Associated Behaviors



A Critique of Existing Classifications From a Developmental Perspective

(Graham & Skuse, 1992)

1. Exclusion of causal processes
2. Disregard of the longitudinal course (example: Gilles de la Tourette-syndrome)
3. Insufficient consideration of age at onset (phases of life)
4. Insufficient judgement of developmental appropriateness of possibly abnormal behaviour (e.g. sexualized behaviour in a 7-year-old, enuresis in a 15-year-old, screaming in a 30-year-old)

Classification of Psychopathological Disorders in Children and Adolescents According to Developmental Aspects and Course

(Remschmidt & Schmidt, 2000)

1. **Behavioral abnormalities and stress reactions** (e.g. abnormalities of motor development, autonomic functions, cognitive functions, acute stress reactions, etc.)
2. **Early-onset disorders with lasting developmental impairment** (e.g. mental retardation, autism, Asperger's syndrome, Rett's syndrome)
3. **Developmental disorders** (e.g. disorders of motor development and articulation, enuresis, enkopresis, oppositional-defiant disorder)

Classification of Psychopathological Disorders in Children and Adolescents According to Developmental Aspects and Course

(Remschmidt & Schmidt, 2000)

4. **Disorders of age-specific onset** (e.g. stuttering, cluttering, Tourette's syndrome, eating disorders, mutism)
5. **Developmentally dependent interaction disorders** (e.g. feeding disorders, Muenchhausen's syndrome)
6. **Early-onset adult-type disorders** (e.g. anxiety disorder, generalized anxiety disorder, OCD, affective disorders, schizophrenia, etc.)

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Epidemiology of psychiatric disorders in children and adolescents

- | | |
|---|--------------------------|
| 1. Prevalence rates in population samples
(Children and adolescents up to the age of 18) | 8 - 23%
(Boys >Girls) |
| School based survey in germany*) | 12,7% |
| 2. Need for treatment according
to international studies | at least 5% |
| 3. Consultation rate | < 3,5% |
| School based survey in germany **) | 3,3% **) |

*) Remschmidt and Walter (1990)

**) 50% not in child psychiatric institutions

Prevalence rates of psychiatric disturbances in relation to different types of school

(Remschmidt 1998)

Type of school	N	n	Disturbed (%)
Remedial school	64	15	23,4
Elementary school (grades 1-4)	567	94	16,6
Elementary school (grades 5-9)	196	32	16,3
Elementary school (furtherance level)	195	30	15,4
High School (lower level)	271	23	8,5
High School (higher level)	449	32	7,1
Vocational school	227	25	11,0
	1969	251	12,7

Time trends with regard to the psychiatric disorders in children and adolescents in the past 50 years

Increase:

**Aggressive behavior
Alcohol and drug addiction
Delinquency
Depression
Suicidal behavior
Obesity
Eating disorders (Anorexia and Bulimia nervosa)**

No increase:

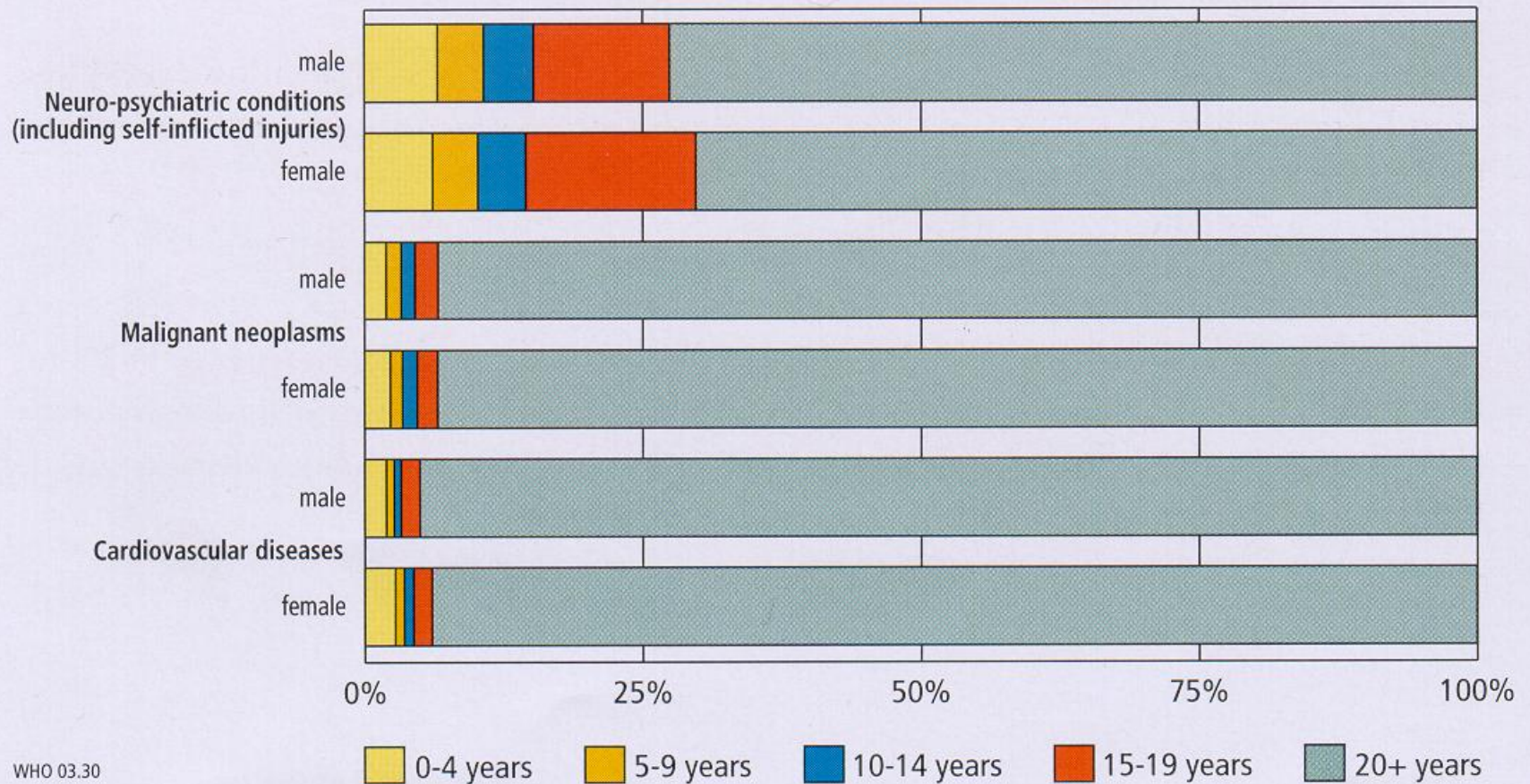
**Organic diseases
Autism
Schizophrenia**

Increase

Questionable:

**Obsessive compulsive disorder (OCD)
Anxiety disorders
Tic disorders and Tourette-Syndrome
Personality disorders**

World: DALYs in 2000 attributable to selected causes, by age and sex

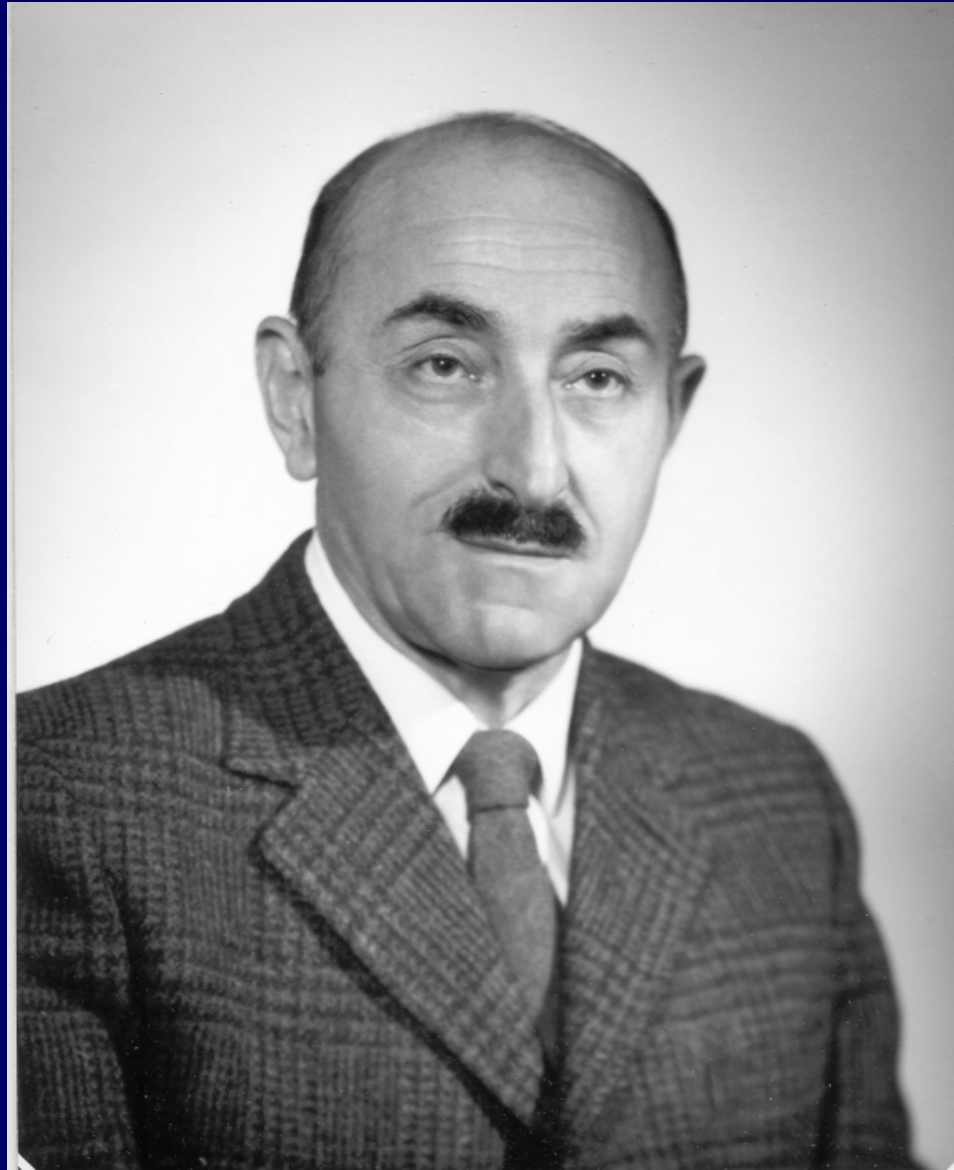


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Types and goals of preventive interventions

<u>Types</u>	<u>Goals</u>
Primary prevention:	Reducing incidence and number of new cases of a disorder
Secondary prevention:	Reducing the prevalence of a disorder by early identification and effective treatment
Tertiary prevention:	Reducing severity and impairment associated with an established disorder (rehabilitation)



Gerald Caplan

Heroes in Community Psychiatry: Professor Gerald Caplan

David L. Cutler, M.D.

Charles Huffine, M.D.

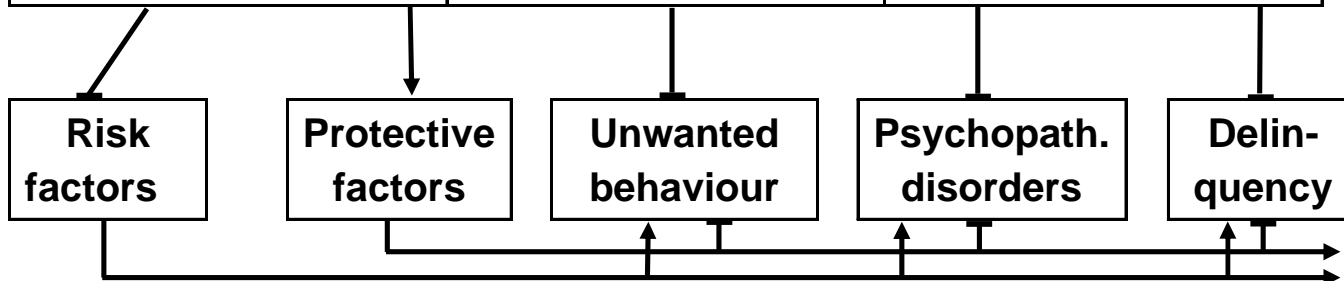
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Types and populations of preventive interventions

Types	Populations
Universal prevention:	Addressed to a complete population (e.g. country, community, school)
Targeted prevention:	
• Selective prevention:	Targeted at individuals or groups or populations with increased risk (e.g. children of schizophrenic parents)
• Indicated prevention:	Targeted at identified high-risk groups with mild symptoms (or with a biological marker) of an established disorder

Preventive interventions		
Primary prevention	Individuum based pr.	Universal prevention
Secondary pr.	Group based pr.	Selective prevention
Tertiary prevention	Population based. pr.	Indicated prevention



Prenatal period	1.-3. j.	4.-6. j.	7.-12. j.	13.-18 j.	> 18 j.
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Time and developmental axis

- Favourable influences
- - - Unfavourable influences

Risk factors for psychopathological disorders in children and adolescents I

(Schmidt 2005)

1. Biological and ecological risk factors

- **Genetic risk factors: Autism, schizophrenia, mental retardation, ADHD, dyslexia**
- **Acquired biological risk factors: Chronic somatic diseases, low birth weight, brain dysfunction**
- **Ecological risk factors: Lead, smoking**

2. Psychological risk factors:

- **Temperament, personality**
- **Low intelligence**
- **Sexual deviations**

Risk factors for psychopathological disorders in children and adolescents II

(Schmidt 2005)

3. Psychosocial risk factors:

- **Risk factors in the family: E.g. low SES, delinquency, separation and divorce, high expressed emotions, psychiatric disorder of parents**
- **Media influences: Induction of deviant behaviour by television and other media: Marihuana, driving without licence**
- **School influences: Structural and pedagogic influences, tolerance of violence, school ideology**
- **Peers: Alcohol and drug abuse, delinquency**

Protective factors

(Schmidt 2005)

Personal resources:

- First born child
- Positive temperament (flexible, active, open-minded)
- High intelligence
- Positive self-concept
- Early prosocial behaviour
- High achievement motivation
- Secure bonding behaviour

Social resources:

- *Family:*
 - High family coherence
 - Autonomy oriented education
 - Close relationship to siblings
- *Environment:*
 - Trustful relationship with an adult outside of the family
 - Close relationship to friends
 - Positive experiences at school
 - Participation in supportive systems (church, religious community, sports club)

Biological markers of resilience

(Holtmann et al. 2004; Schmidt 2005)

<i>Psychopathological behaviour:</i>	<i>Protective parameter:</i>	<i>References:</i>
Dissocial behaviour and delinquency	High MAO-A-activity	Caspi et al. 2002
	Increased skin conductance	Raine et al. 1995
	Raised orienting reaction	Raine et al. 1996
	Elevated autonomic arousal	Brennan et al. 1997
Depressive disorder	5-HTT l/l-allele	Caspi et al. 2003

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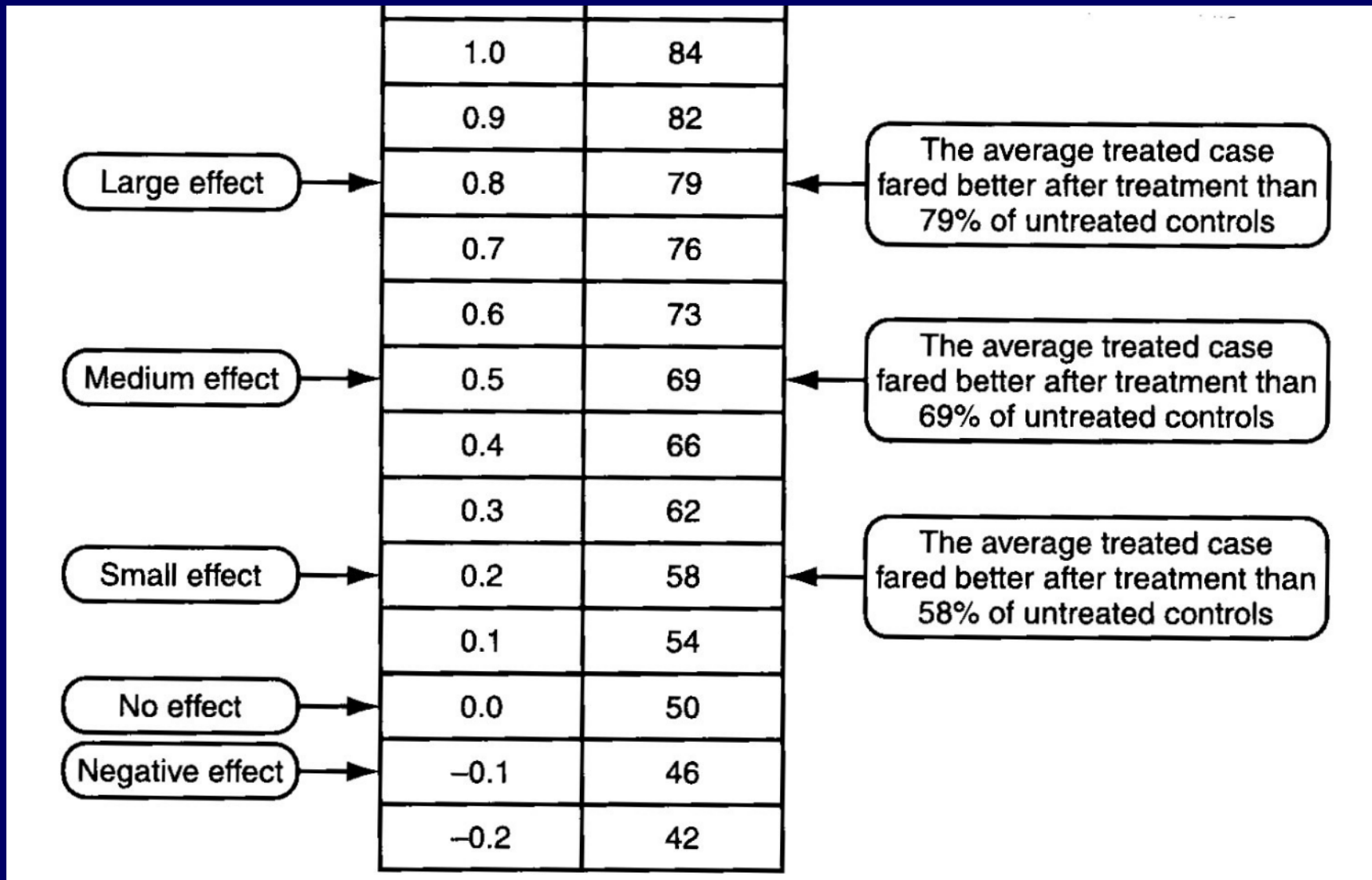
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Characteristics of successful preventive intervention programs

(Nation et al. 2003: Nurcombe 2005)

1. **Comprehensiveness**
2. **Variation in teaching methods**
3. **Adequate dosage**
4. **Theoretical model**
5. **Promotion of positive relationships**
6. **Appropriate timing**
7. **Sociocultural relevance**
8. **Outcome evaluation**
9. **Staff training and support**

Interpretation of effect sizes



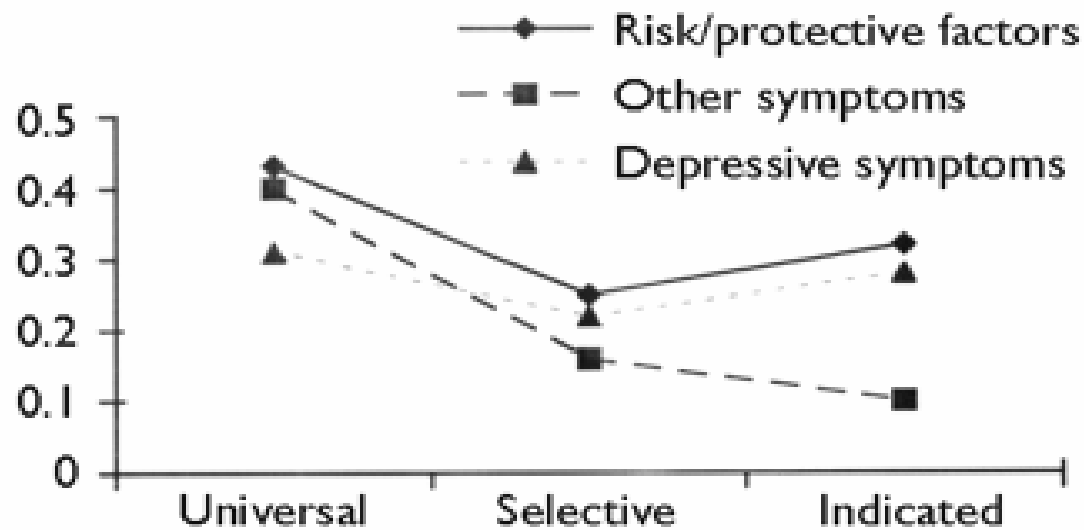
Effect sizes of some established prevention programs for psychopathological disorders in children and adolescents

Physical abuse (parent-oriented) (Parental competence ↑; knowledge ↑; life-skill training ↑)	0,3 - 1,5
Sexual abuse (victim-oriented) (Self-protection ↑; resistance ↑)	0,2 - 0,9
School violence (Bullying ↓; tyrannizing ↓; intimidating ↓)	0,25 - 0,33
PTSD (Anxiety ↓; depression ↓)	0,8 - 1,4
Nicotine, alcohol and drug abuse (self-reported consumption ↓; resistance ↑)	0,2 - 0,4
Suicidal behavior (Help-seeking behavior ↑; risk-behavior ↓; hopelessness ↓)	0,1 - 1,4
Adjustment problems in autism (Symptom severity ↓; maladaptive behavior ↓; IQ ↑)	0,3 - 0,8

Prevention of depressive disorders: Effective components

Behavior therapy (BT)	0,17	p=0,000
vs. no BT	<u>0,42</u>	
Competence training	<u>0,29</u>	p=0,001
vs. no competence training	0,13	
Educational approaches	<u>0,27</u>	p=0,012
vs. no educational approaches	0,14	
Application of a single method	0,14	p=0,027
vs. multicomponent approach	<u>0,26</u>	

(Jané-Llogis & Hosman, 2003, Br. J. Psychiat. 183:384-397)



Weighted effect sizes with regard to changes of risk factors/protective factors, depressive symptoms and other symptoms (e.g. anxiety) (Jané-Llopis & Hosman, *Brit. J. Psychiat.* 183: 384-397, 2003)

WPA Mental Health Program for Children and Adolescents in Connection with WHO and IACAPAP

- Dissemination of information / materials
- Media campaign
- Burden of disease / economy

Awareness TF 1*

Prevention TF 2*

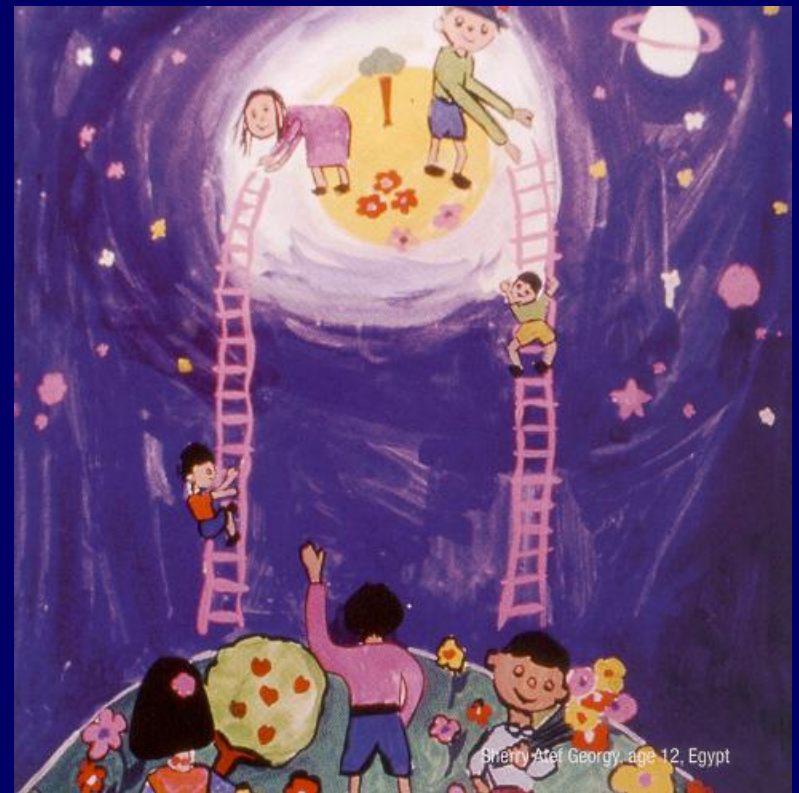
- School violence
- School drop-out
- Locus of intervention
(Family and school)

Services TF 3*

- Internalizing disorders
- Externalizing disorders

* TF = Task force

The World Psychiatric Association (WPA) Presidential Global Programme on Child Mental Health In Collaboration with **The World Health Organization (WHO)** & **The International Association for Child and Adolescent Psychiatry and Allied Professions (IACAPAP)**



A healthy Child's Mind
The World's Future



Brochure for a Child

To See

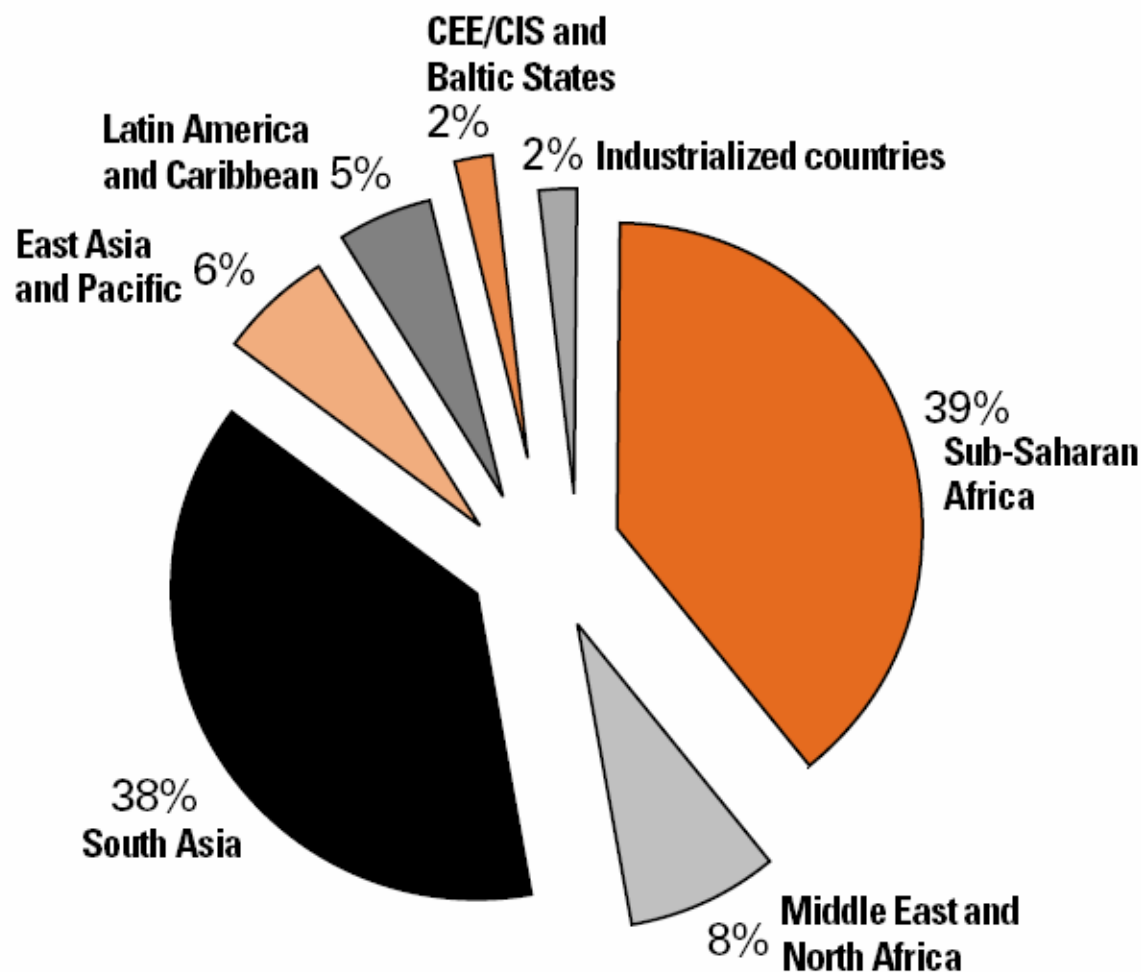
To Listen

To Help

Prevention of mental health problems in children and adolescents: Why school drop-out (SDO)?

- SDO is an important worldwide problem, particularly in developing countries
- SDO is frequent, varying between different parts of the world: All over the world, 121 million primary-school-age children do not attend school (UNICEF 2005)
- SDO is associated with many other problems such as poverty, minority status, single parenthood, child maltreatment, poor health care, family disruption, parental mental illness, chaotic school atmosphere, alcohol/substance abuse, adolescent pregnancy (Nurcombe 2005)
- SDO-rate is an important measure of the educational condition of a country (Kominski 1990)
- Preventive intervention in school drop-out is possible and can be a highly effective measure for the improvement of child and adolescent mental health all over the world

Children of primary school age not in school, by region, 1998



Nearly 120 million primary-school-age children are not in school:
53% girls
47% boys

Source: UNICEF/UNESCO, 2001.

Five theoretical models of early high school drop-out

(Battin-Pearson et al. 2000; Nurcombe 2005)

- 1. Academic mediation: Poor academic achievement can be looked upon as a mediator of drop-out**
- 2. General deviation: Delinquent attitudes, drug abuse, etc. predict school drop-out**
- 3. Deviant affiliation: Direct or indirect influence on school drop-out?**
- 4. Poor family socialization: Family disruption, poor parenting, parental psychopathology may be directly or indirectly associated with school drop-out**
- 5. Structural strains: Demographic factors, low SES, and belonging to an ethnic minority group facilitate school drop-out**

School drop-out-Projects in Alexandria (Egypt), Nishnij Novgorod (Russia) und Porto Alegre (Brazil)

(WPA, IACAPAP, WHO)

School A (Intervention school)

- Baseline for drop-out-rate (last term)
- Intervention (school-based, family-based measures, student-based measures)
- Assessment of drop-out-rate at end of term

School B (Control school)

- Baseline for drop-out-rate (last term)
- Information of parents, students and teachers about consequences of insufficient school attendance, no targeted intervention
- Assessment of drop-out-rate at end of term

**Reduction of school drop-out rate
after one year of the prevention program
(2003/2004 bzw. 2004/2005)**

	<u>Intervention school</u>	<u>Control school</u>
Alexandria (Egypt)	19% → ?	17,5% → 28,5%
Nizhny Novgorod (Russia)	10,2% → 5,0%	8,6% → 9%
Porto Alegre (Brazil)	7,0 % → 3,6%	4,4% → 9,5%