

# Intervention Mapping: Developing Theory- and Evidence- Based Prevention Programs

Amsterdam, Nov. 24 2006

Gerjo Kok

Maastricht University



# Health Promotion

- Planning
- Needs Assessment
- Developing & Implementing a Program
- Evaluating the Effectiveness



# State of the Art

- Significant enhancements in:
  - Needs assessment
  - Program evaluation and implementation
  - Theory
- Slow progress in:
  - Applying theories and evidence



# Intervention Mapping

- Additional planning tool
- Map the path of intervention development from a need to the potential solution
- Process or protocol for decisions, based on theory and evidence
- Applying theories



SECOND EDITION

# PLANNING HEALTH PROMOTION PROGRAMS

An Intervention Mapping Approach

L. Kay Bartholomew

Guy S. Parcel

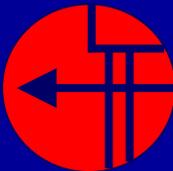
Gerjo Kok

Nell H. Gottlieb



# Intervention Mapping

- Needs Assessment
- Defining Program Objectives
- Selecting Methods and Strategies
- Designing the Program
- Planning for Program Implementation
- Planning for Program Evaluation

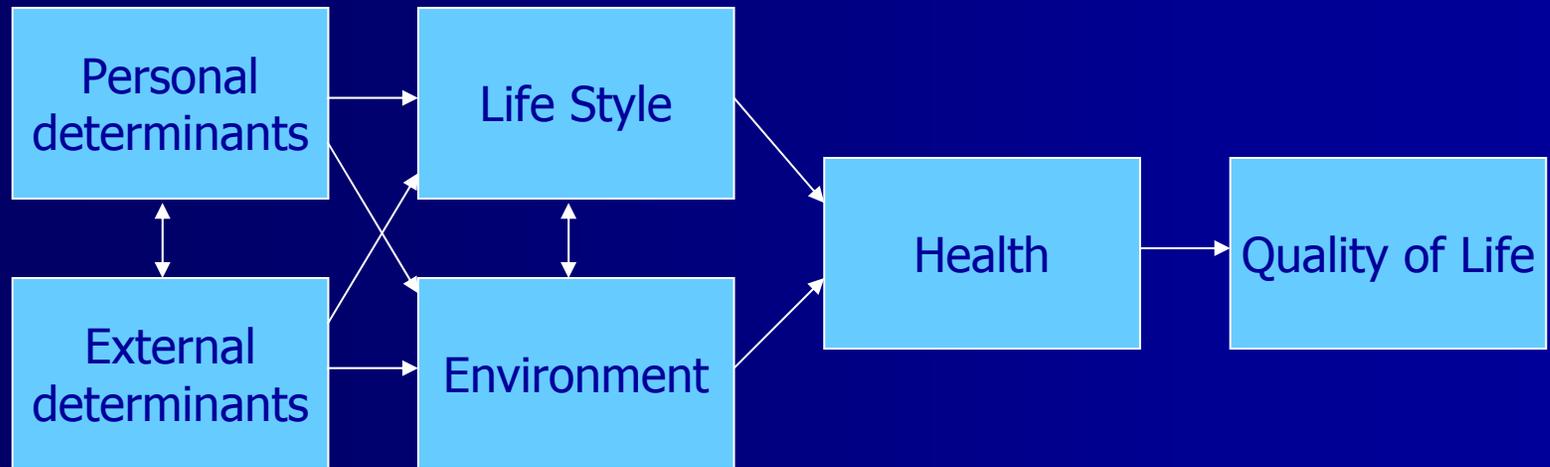


# Intervention Mapping

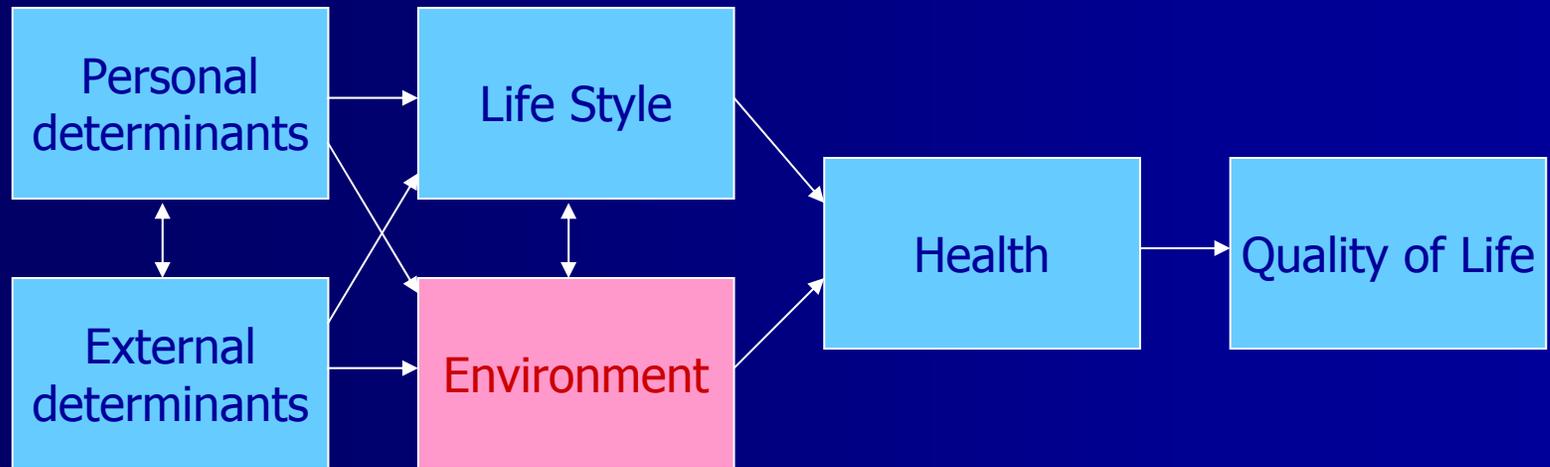
- **Needs Assessment**
- Defining Program Objectives
- Selecting Methods and Strategies
- Designing the Program
- Planning for Program Implementation
- Planning for Program Evaluation



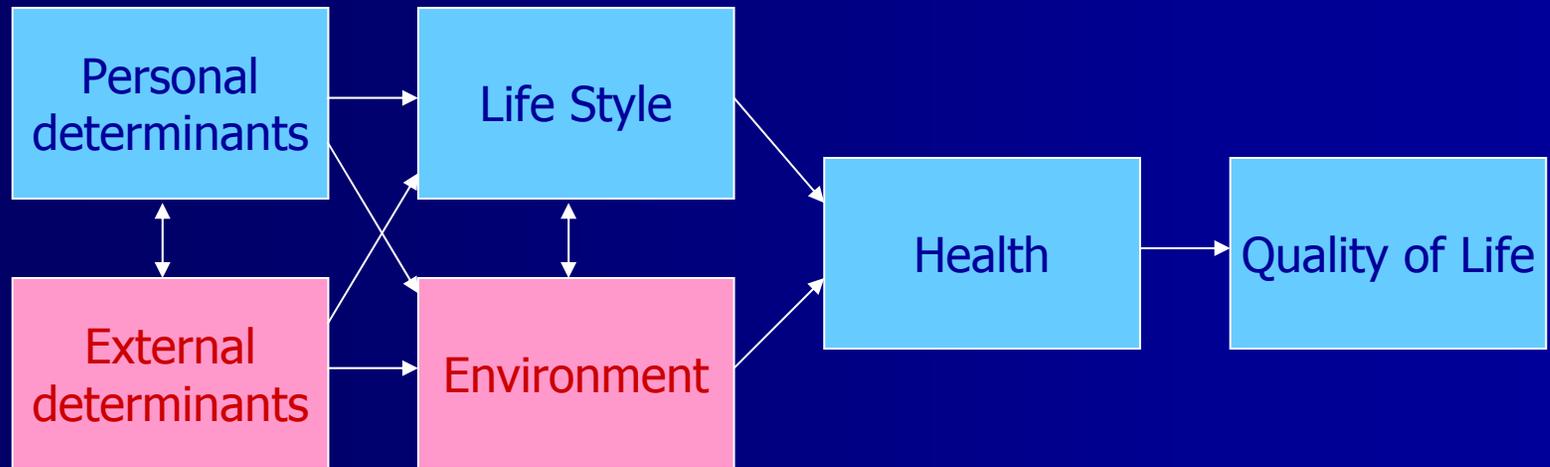
# Needs Assessment PRECEDE/PROCEED



# Environment



# Environment and External Determinants



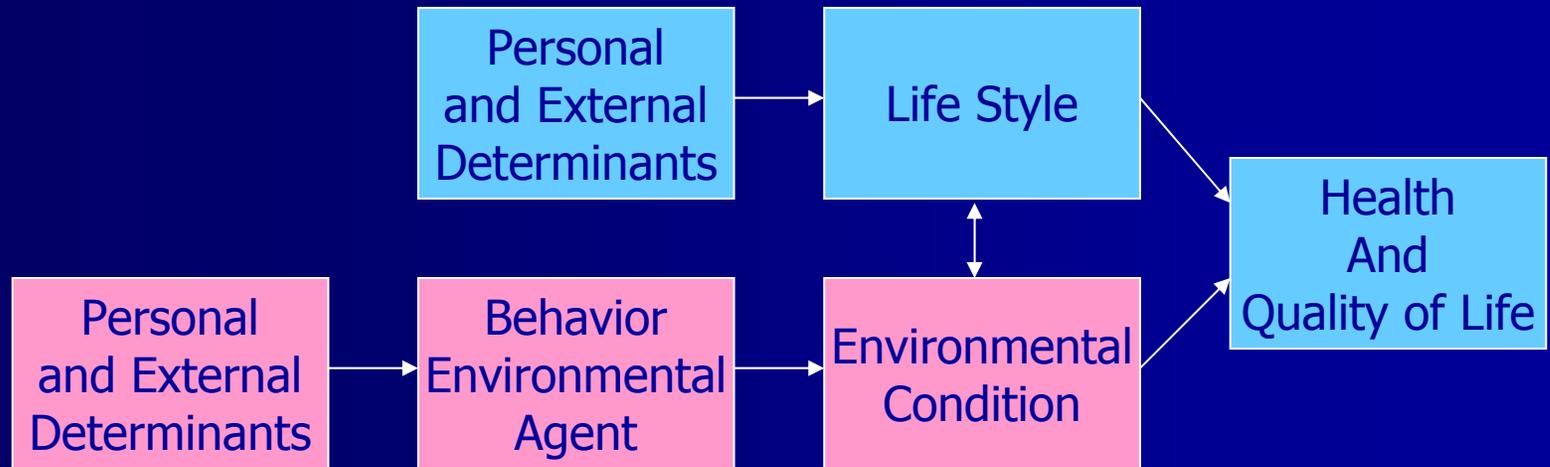
# Environment



Richard et al, 1996



# Environment



# Environmental Decision Makers

- Parents
- Health professionals
- School management
- Worksite management
- Newspaper editors
- Politicians



# Environmental Decision Makers

- Parents
- Health professionals
- School management
- **Worksite management: profit**
- **Newspaper editors: news value**
- **Politicians: re-election**



# Intervention Mapping

- Needs Assessment
- **Defining Program Objectives**
- Selecting Methods and Strategies
- Designing the Program
- Planning for Program Implementation
- Planning for Program Evaluation



# Program Objectives

- *What must be learned by the program participants and what must be changed in the environment*



# Program Objectives

- *What must be learned by the program participants and what must be changed in the environment*
- Differentiating the target population
- Stating performance objectives
- Selecting determinants
- Defining program objectives



# Program Objectives

- *What must be learned by the program participants and what must be changed in the environment*
- Differentiating the target population
- Stating performance objectives
- Selecting determinants
- Defining program objectives



# Differentiating the Target Population

- *Are groups different in behavior, environments or determinants?*



# Differentiating the Target Population

- *Are groups different in behavior, environments or determinants?*
- Ethnicity
- Age
- Community cohesion
- Facilities



# Differentiating the Target Population

- *Are groups different in behavior, environments or determinants?*
- Ethnicity
- Age: adolescents - elderly
- Community cohesion
- Facilities: free condoms



# Program Objectives

- Differentiating the target population
- **Stating performance objectives**
- Selecting determinants
- Defining program objectives



# Stating Performance Objectives

- *What do we want the target to do?*
- Sub-behaviors
- Preparatory behaviors
- *Necessary*
- *Different determinants*



# Stating Performance Objectives

- *What do we want the target to do?*
- Subbehaviors: condom use, testing
- Preparatory behaviors: buying
- *Necessary*
- *Different determinants*



# Performance objectives for complex behaviors

- *HIV-prevention, HIV-detection*
- More specific: **negotiated safety**
- Guidelines: **every half year check-up**
- Self-regulatory behavior



# Self-Regulatory Behavior

- Monitoring
- Evaluation, comparison
- Finding solutions, setting goals
- Implementing behavior
- Monitoring  $\Omega$



# HIV+ Sexual Health

- Monitoring: sexual problems
- Evaluation: lower than before?
- Solutions: action plan
- Implementing action plan
- Monitoring  $\Omega$



# Performance objectives for environmental agents

- Free condoms:

- Bar owners will provide free condoms
- Local health service will monitor availability
- Local government will apply sanctions if necessary



# Program Objectives

- Differentiating the target population
- Stating performance objectives
- **Selecting determinants**
- Defining program objectives



# Determinants of Behavior

- Personal: under the individual's control
  - Attitudes
  - Self-efficacy
  - Preferences
- External: outside the individual's control
  - Availability
  - Costs
  - Norms



# Program Objectives

- Differentiating the target population
- Stating performance objectives
- Selecting determinants
- **Defining program objectives**



# Program Objectives Matrix

Performance objectives	Personal determinants			External determinants	
	Attitude	Self-Efficacy	Preferences	Availability	Costs
Monitor and compare					
Find solutions					
Implement					



# Program Objectives Matrix

Performance objectives	Personal determinants			External determinants	
	Attitude	Self-Efficacy	Habit	Availability	Costs
Monitor and compare	Risk				
Find solutions				Bars	
Implement		Resistance to social pressure			Policy



# Program Objectives

- Adolescents anticipate disadvantages of condom use (in taking a decision)
- Adolescents express confidence to buy condoms
- Health services make free condoms available



# Intervention Mapping

- Needs Assessment
- Defining Program Objectives
- **Selecting Methods and Strategies**
- Designing the Program
- Planning for Program Implementation
- Planning for Program Evaluation



# Methods and Strategies

- Theoretical methods
  - general technique for influencing change
- Practical strategies
  - Specific technique for the application of the method

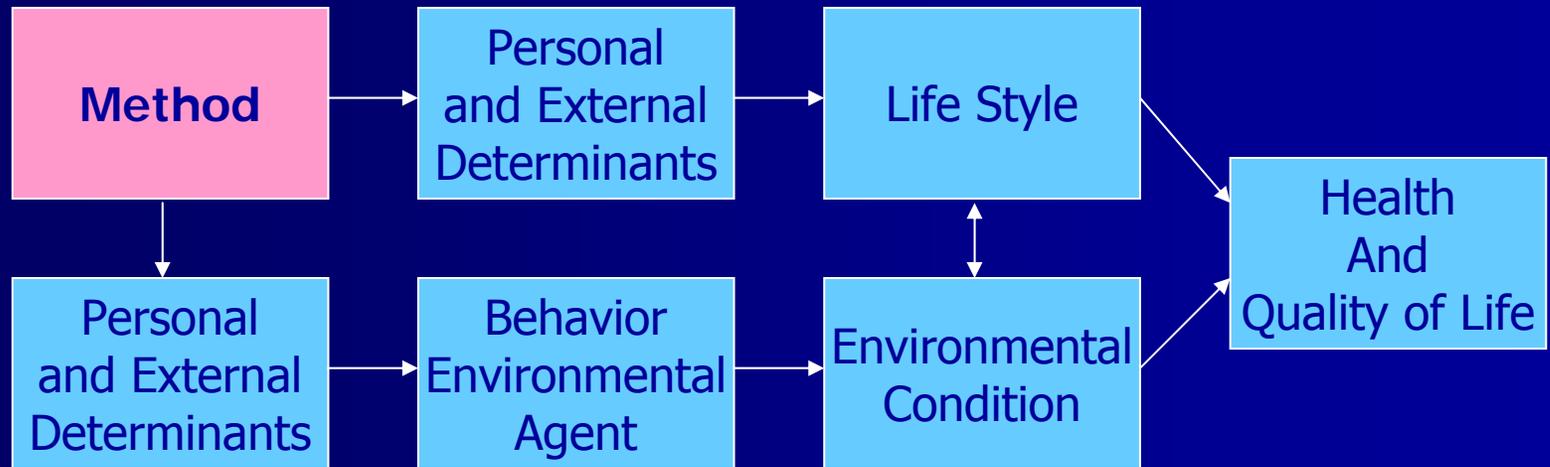


# Methods and Strategies

- Theoretical methods
  - general technique for influencing change
  - modeling
- Practical strategies
  - Specific technique for the application of the method
  - photo novella



# Methods for Determinants of Life Style and Environment



# Selecting Methods

- Order the program objectives by determinant
- Select methods per determinant
- Consider the parameters of the method\*



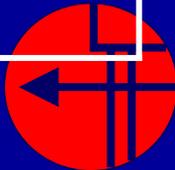
# Selecting Methods

- Consider the parameters of the method
- **Modeling:**
  - Identification
  - Skills
  - Reinforcement
  - Coping versus mastery model



# Methods for Skills and Self-Efficacy

Methods and Theory	Considerations for use
Modeling <i>Social Cognitive Theory</i>	Requires identification, skills, reinforcement, coping versus mastery models
Re-attribution training <i>Attribution theory</i>	Requires counseling unstable and controllable attributions for failure
Goal setting <i>Goal setting theory</i>	Requires commitment to the goal and a goal that is difficult but available within the individual's skill level
Planning coping responses <i>Relapse prevention theory</i>	Must include identification of high-risk situations and practice of coping response



# Methods to Create Health-Promoting Communities

Methods and Theory	Considerations for use
Reflection-action-reflection <i>Conscientization</i>	Requires being with the people in the community
Grass-roots organizing <i>Community organization theory</i>	Requires starting where the community is
Forming coalitions <i>Community organization theory</i>	Requires collaboration across various agendas; Requires attention to stages of partnership development
Use of lay health workers <i>Community organization theory</i>	Existence of natural helpers in a social network; lay health workers have opinion leader status in the community and volunteer for training



# Translating Methods to Strategies

- Depends on the considerations
- Depends on the situation: **schools versus Internet**
- Depends on the program implementation: **skills of the implementers - teachers**



# Intervention Mapping

- Needs Assessment
- Defining Program Objectives
- Selecting Methods and Strategies
- **Designing the Program**
- Planning for Program Implementation
- Planning for Program Evaluation



# Program Design

- Overall structure
- Themes
- Channels and vehicles
- Culture
- Design and materials
- Working with other professionals
- Pilot testing



# Program Design

- Overall structure
- Themes
- Channels and vehicles
- Culture
- Design and materials
- Working with other professionals
- Pilot testing



# Computer Tailoring

- WWW: very good opportunities
- Web-based computer tailoring is a promising strategy
- More research on optimal use: content, interactivity, information processing, doses, and combinations with traditional channels



# Program Design

- Overall structure
- Themes
- Channels and vehicles
- Culture
- Design and materials
- **Working with other professionals**
- Pilot testing



# Working with other professionals

- Respect for other professionals' skills
- Recognition of other professionals' limitations
- Final responsibility for keeping the theory- and evidence-based decisions in place: *objectives and methods*



# Working with other professionals

- Respect for other professionals' skills
- Recognition of other professionals' limitations
- Final responsibility for keeping the theory- and evidence-based decisions in place: *objectives and methods*

*Examples: Modeling & reinforcement*

*Fear-arousing communication*



# Program Design

- Overall structure
- Themes
- Channels and vehicles
- Culture
- Design and materials
- Working with other professionals
- **Pilot testing**



# Pilot Testing

- Usually: showing the materials and asking for subjective evaluations
- Possibilities:
  - Objective measurements
  - Experimental design: outcome measurements
  - Attention (EEG's), eye-movement, reading time



# Intervention Mapping

- Needs Assessment
- Defining Program Objectives
- Selecting Methods and Strategies
- Designing the Program
- **Planning for Program Implementation**
- Planning for Program Evaluation

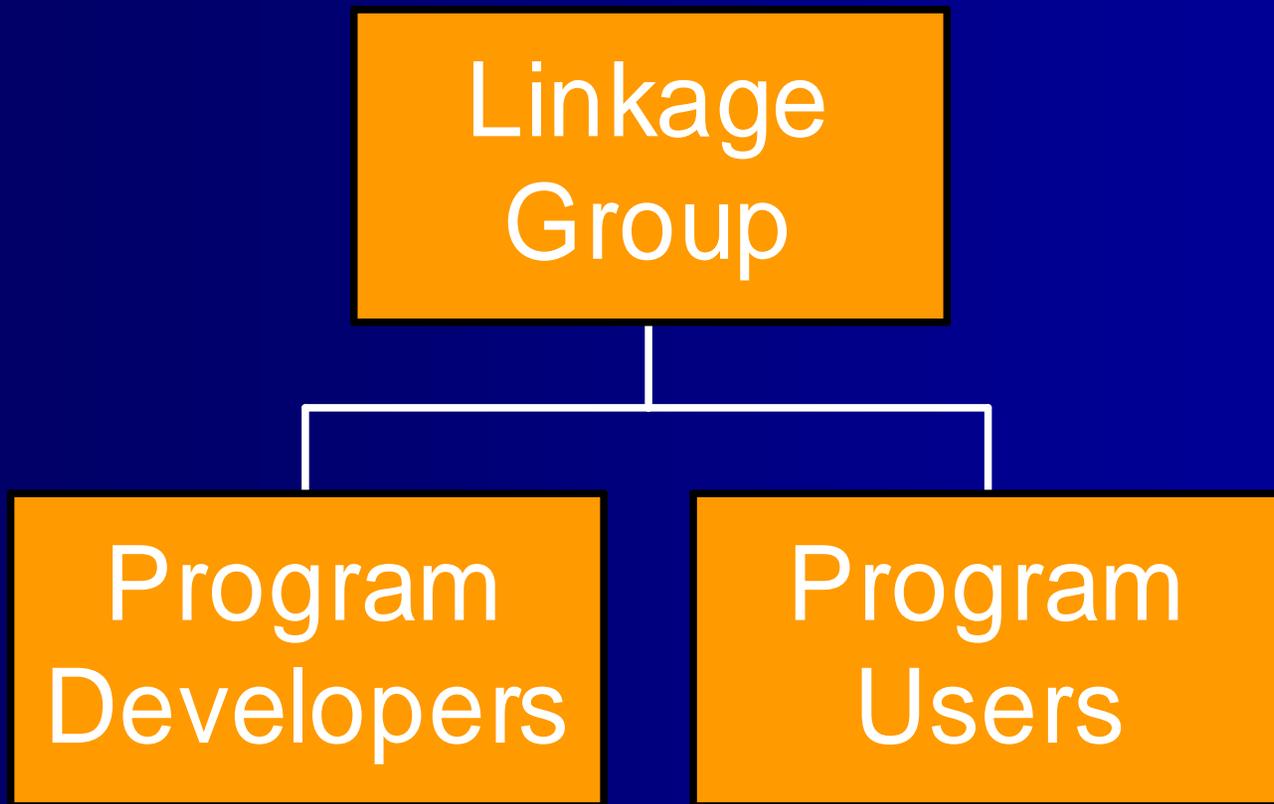


# Planning for Implementation

- Program Developers
- Program Users\*
- Stages in Implementation
  - Performance objectives: **aware, adopt, implement, maintain**
- Implementation Program
  - Matrix, Methods, Program



# Planning for Implementation



# Intervention Mapping

- Needs Assessment
- Defining Program Objectives
- Selecting Methods and Strategies
- Designing the Program
- Planning for Program Implementation
- **Planning for Program Evaluation**

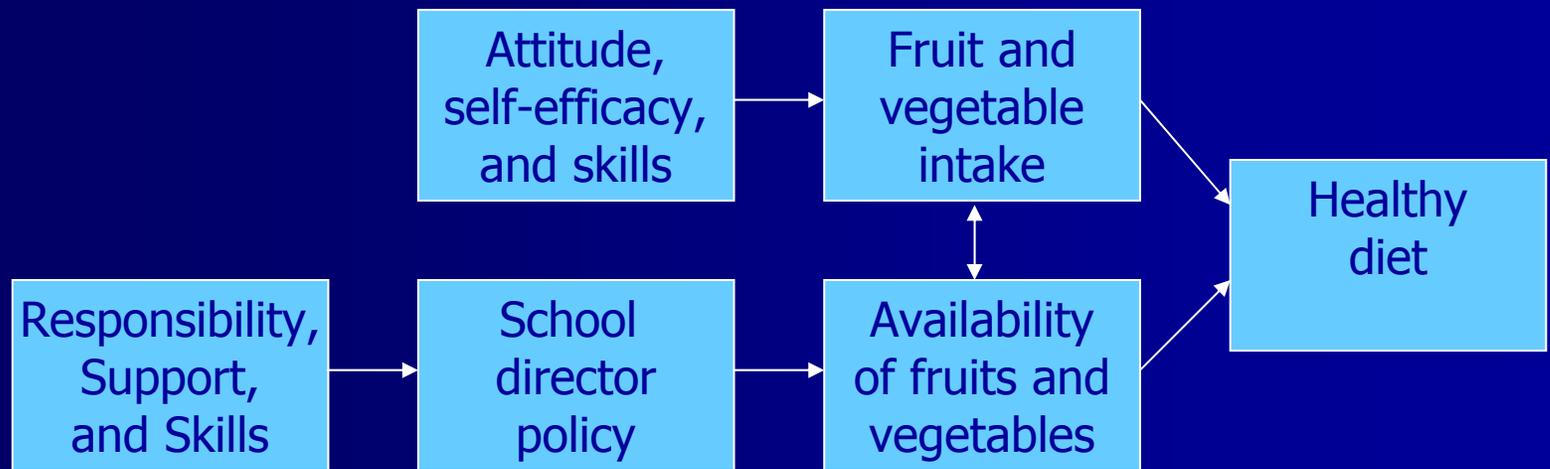


# Planning for Evaluation

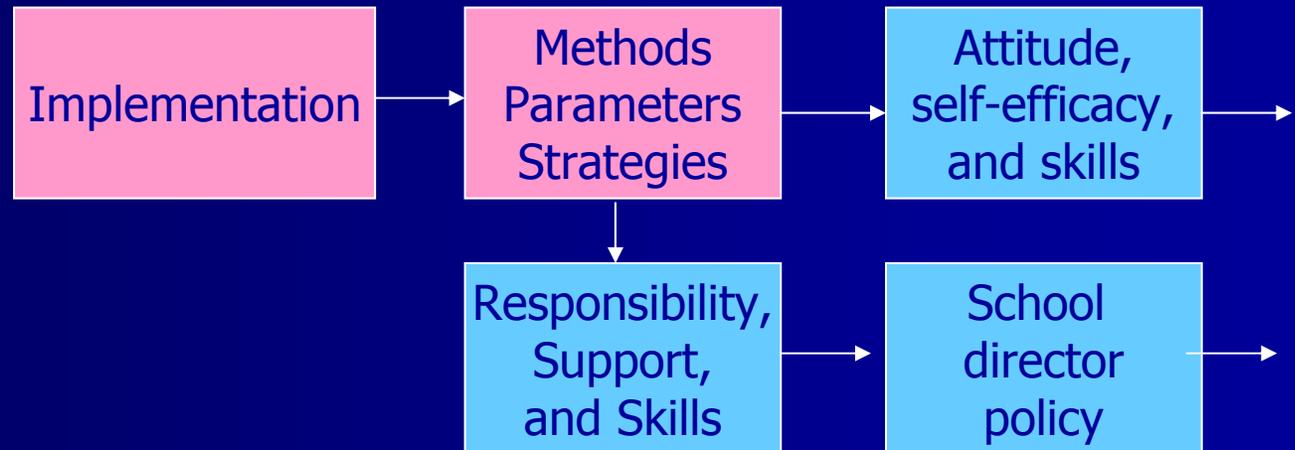
- Using the Intervention Map as the evaluation model
  - Quality of life and health
  - Life style: Performance objectives
  - Environment: Agent
  - Determinants: personal and external



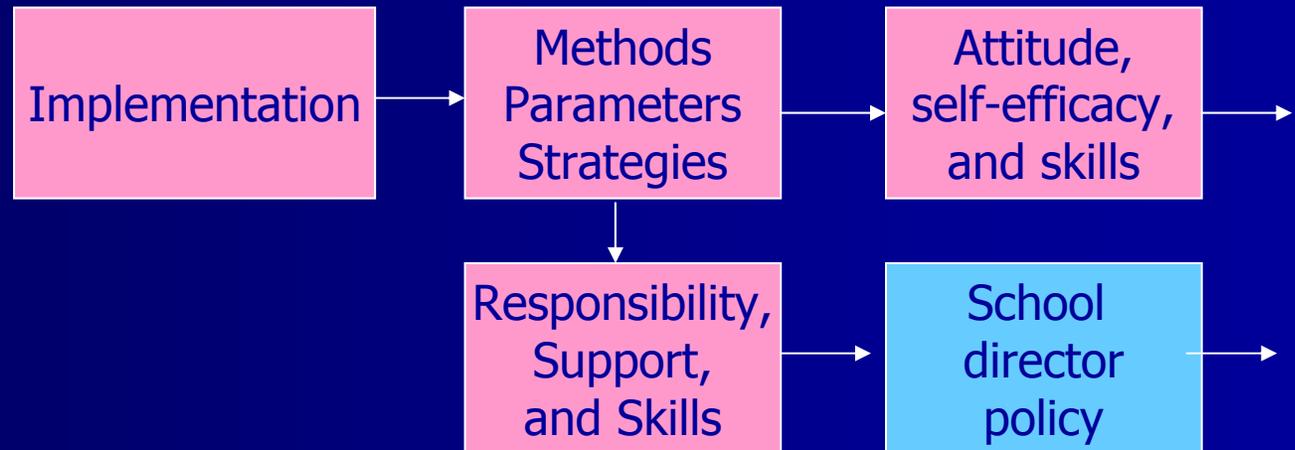
# Effect Evaluation



# Process Evaluation



# Process Evaluation



# Intervention Mapping

- **Needs Assessment**
- Defining Program Objectives
- Selecting Methods and Strategies
- Designing the Program
- Planning for Program Implementation
- **Planning for Program Evaluation**



# Conclusions

- Planning
- Applying theories
- Intervention Mapping
- Evaluation
- Skill

