Theories for individual behavior change

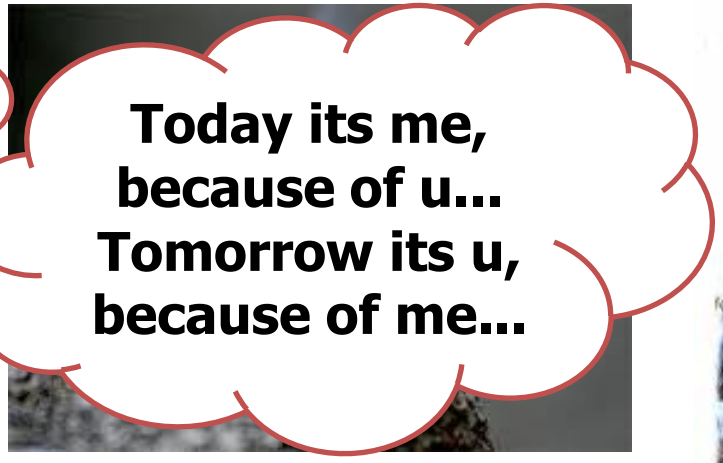
Dr. Zheng Pinpin

Behaviour Change …1

List the important changes in the pictures ???

Behaviour Change…2

Fully burnt Cigarette **ASH**



Smokers Lung

Quit smoking… Tar the roads… NOT your LUNGS!

Behavior and Global Health

"Health is a state of complete physical, psychological, and social well-being and not simply the absence of disease or infirmity." (World Health Organization, 1948)

- Physical good health eludes billions of people
- Death and disease from *preventable* causes remain high
- Behavior is a key factor in determining health

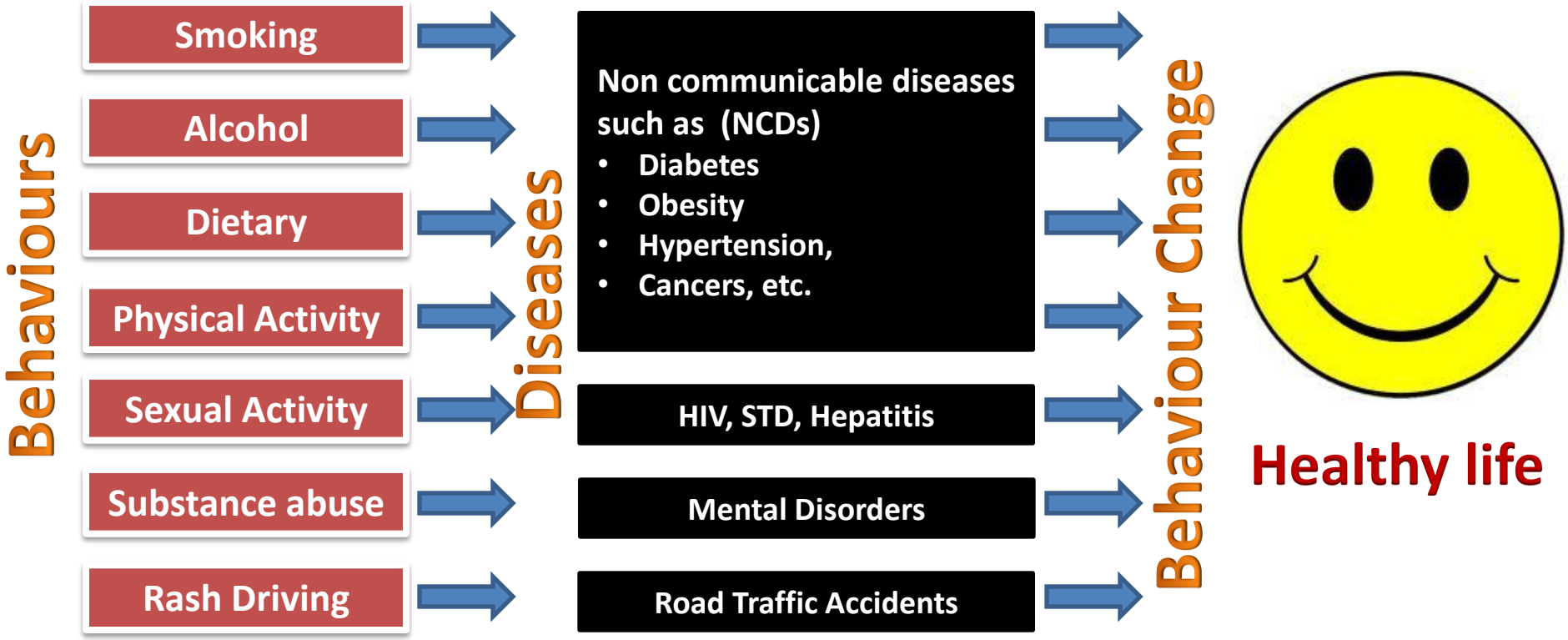
Ten Leading Risk Factors for Preventable Disease

- Maternal and child underweight
- Unsafe sex
- High blood pressure
- Tobacco
- Alcohol
- Unsafe water, poor sanitation, and hygiene
- High cholesterol
- Indoor smoke from solid fuels
- Iron deficiency
- High body mass index or overweight

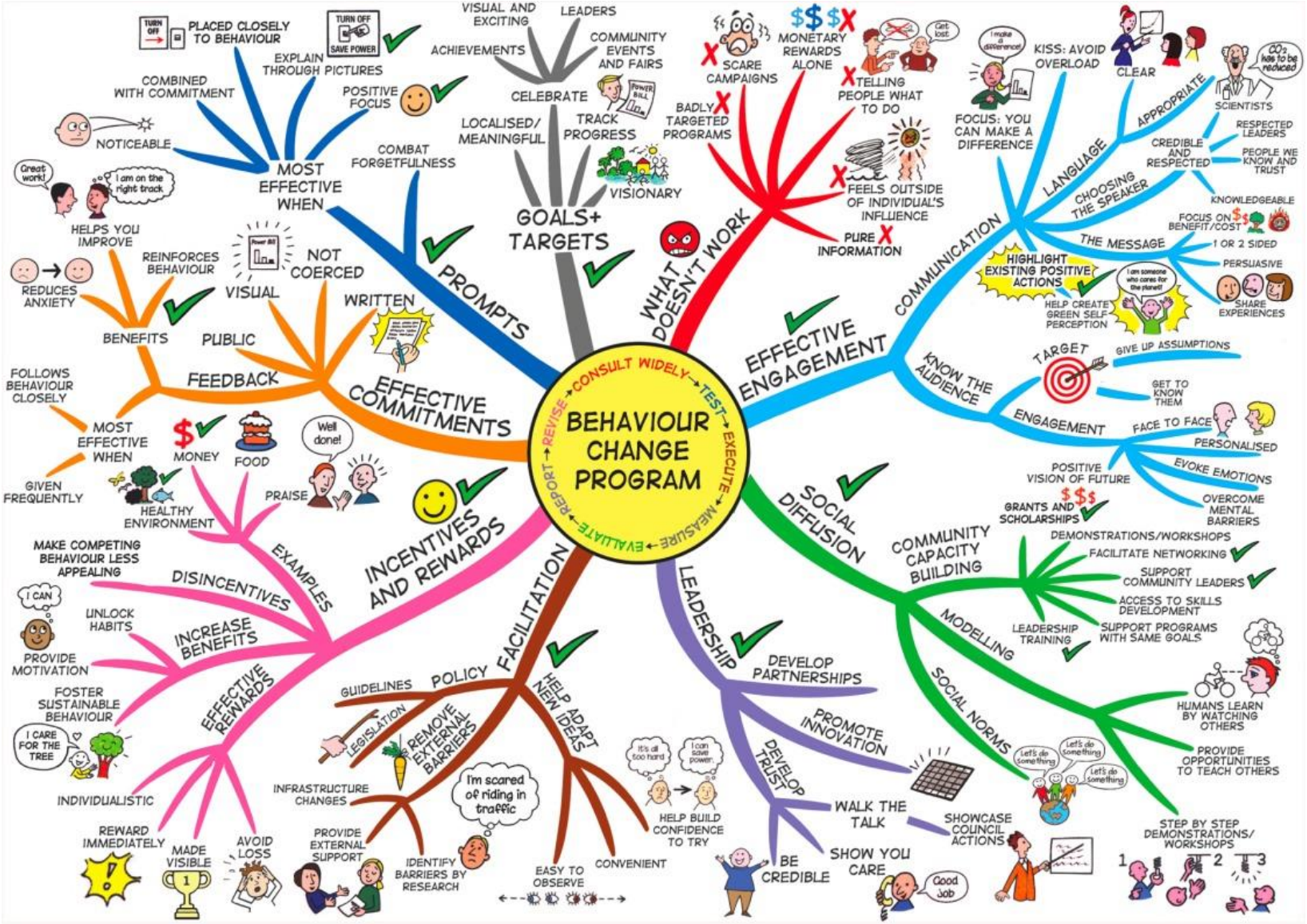
Source: WHO, *World Health Report 2002: Reducing Risk, Promoting Healthy Life* (Geneva: WHO, 2002), accessed online at www.who.int, on Nov. 15, 2004.

Behaviour ⟺ Public Health

Fortunately, human beings have, in theory, control over their conduct



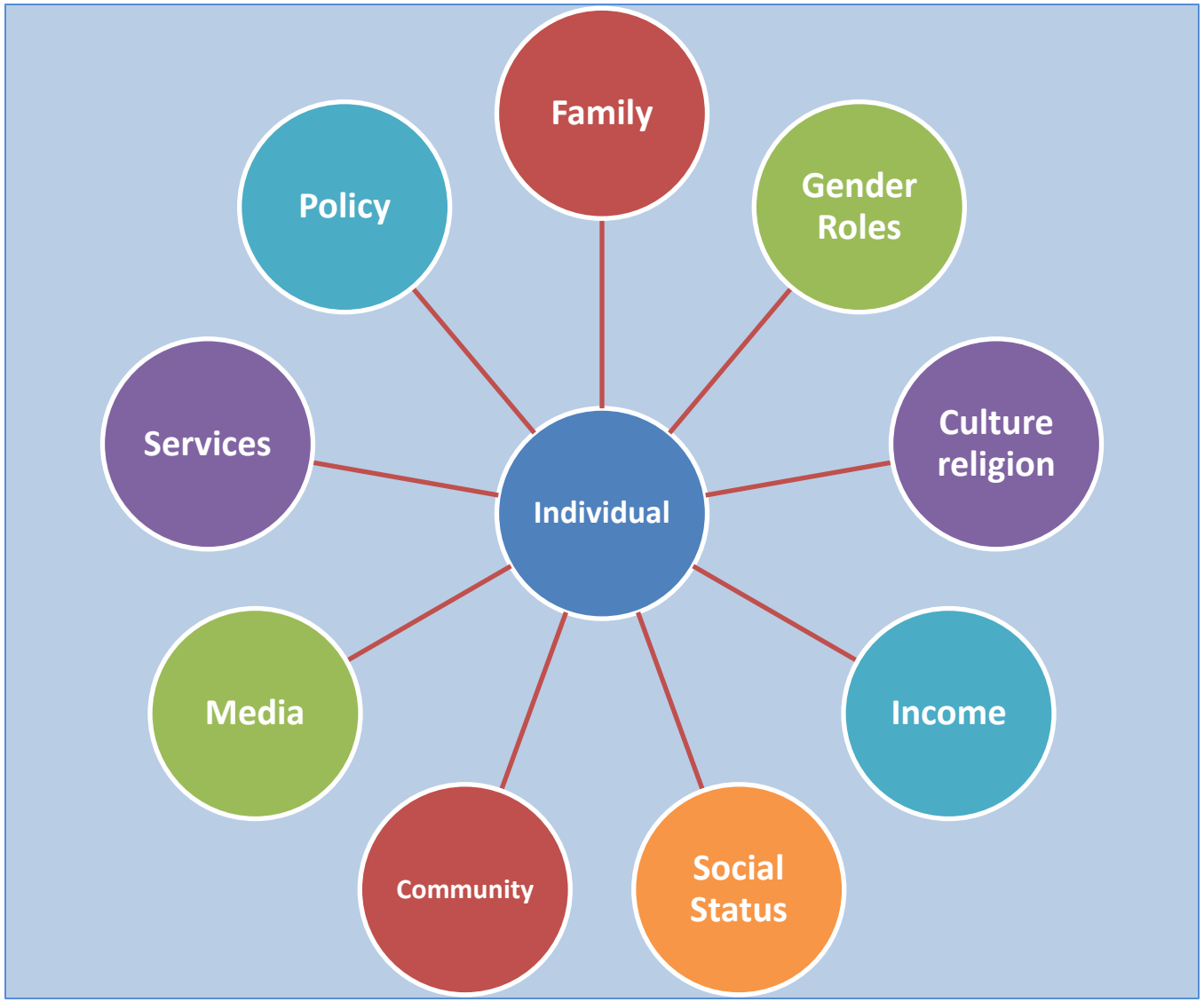
Health-compromising behaviors can be eliminated by self-regulatory efforts, and by adopting health-enhancing behaviors


BEHAVIOUR CHANGE PROGRAM
CONSULT WIDELY → TEST → EXECUTE → MEASURE → EVALUATE → REPORT → REVISE
PROMPTS
PLACED CLOSELY TO BEHAVIOUR
TURN OFF
TURN OFF SAVE POWER
EXPLAIN THROUGH PICTURES
COMBINED WITH COMMITMENT
POSITIVE FOCUS
NOTICEABLE
MOST EFFECTIVE WHEN
COMBAT FORGETFULNESS
Great work!
I am on the right track
GOALS+ TARGETS
VISUAL AND EXCITING
LEADERS
COMMUNITY EVENTS AND FAIRS
ACHIEVEMENTS
CELEBRATE
TRACK PROGRESS
LOCALISED/ MEANINGFUL
VISIONARY
WHAT DOESN'T WORK
SCARE CAMPAIGNS
MONETARY REWARDS ALONE
BADLY TARGETED PROGRAMS
TELLING PEOPLE WHAT TO DO
FEELS OUTSIDE OF INDIVIDUAL'S INFLUENCE
PURE INFORMATION
EFFECTIVE ENGAGEMENT
COMMUNICATION
FOCUS: YOU CAN MAKE A DIFFERENCE
KISS: AVOID OVERLOAD
CLEAR
APPROPRIATE
LANGUAGE
CHOOSING THE SPEAKER
SCIENTISTS
RESPECTED LEADERS
CREDIBLE AND RESPECTED
PEOPLE WE KNOW AND TRUST
KNOWLEDGEABLE
THE MESSAGE
FOCUS ON BENEFIT/COST
1 OR 2 SIDED
PERSUASIVE
SHARE EXPERIENCES
HIGHLIGHT EXISTING POSITIVE ACTIONS
HELP CREATE GREEN SELF PERCEPTION
KNOW THE AUDIENCE
TARGET
GIVE UP ASSUMPTIONS
GET TO KNOW THEM
ENGAGEMENT
FACE TO FACE
PERSONALISED
EVOKE EMOTIONS
OVERCOME MENTAL BARRIERS
POSITIVE VISION OF FUTURE
SOCIAL DIFFUSION
GRANTS AND SCHOLARSHIPS
COMMUNITY CAPACITY BUILDING
DEMONSTRATIONS/WORKSHOPS
FACILITATE NETWORKING
SUPPORT COMMUNITY LEADERS
ACCESS TO SKILLS DEVELOPMENT
LEADERSHIP TRAINING
SUPPORT PROGRAMS WITH SAME GOALS
MODELLING
SOCIAL NORMS
HUMANS LEARN BY WATCHING OTHERS
PROVIDE OPPORTUNITIES TO TEACH OTHERS
STEP BY STEP DEMONSTRATIONS/ WORKSHOPS
LEADERSHIP
DEVELOP PARTNERSHIPS
PROMOTE INNOVATION
DEVELOP TRUST
WALK THE TALK
SHOWCASE COUNCIL ACTIONS
SHOW YOU CARE
BE CREDIBLE
Good job
FACILITATION
POLICY
GUIDELINES
LEGISLATION
REMOVE EXTERNAL BARRIERS
INFRASTRUCTURE CHANGES
PROVIDE EXTERNAL SUPPORT
IDENTIFY BARRIERS BY RESEARCH
I'm scared of riding in traffic
HELP ADAPT NEW IDEAS
EASY TO OBSERVE
CONVENIENT
HELP BUILD CONFIDENCE TO TRY
INCENTIVES AND REWARDS
EXAMPLES
DISINCENTIVES
MAKE COMPETING BEHAVIOUR LESS APPEALING
INCREASE BENEFITS
UNLOCK HABITS
I CAN
PROVIDE MOTIVATION
EFFECTIVE REWARDS
FOSTER SUSTAINABLE BEHAVIOUR
I CARE FOR THE TREE
INDIVIDUALISTIC
REWARD IMMEDIATELY
MADE VISIBLE
AVOID LOSS
MONEY
FOOD
Well done!
PRAISE
HEALTHY ENVIRONMENT
GIVEN FREQUENTLY
FOLLOWS BEHAVIOUR CLOSELY
MOST EFFECTIVE WHEN
EFFECTIVE COMMITMENTS
FEEDBACK
BENEFITS
REDUCES ANXIETY
REINFORCES BEHAVIOUR
HELPS YOU IMPROVE
PUBLIC
VISUAL
NOT COERCED
WRITTEN

Behaviour Change

- **Behavioural change theories have gained recognition in health for their possible effectiveness in explaining health-related behaviours and providing insight into methods that would encourage individuals to develop and maintain healthy lifestyles**

Determinants of health related behaviour



Exercise 1

List factors influencing

1) smoking.
2) Unsafe sex.
3) Eating junk food.

Factors That Influence Behavior Change

- Predisposing factors:
  - Knowledge, beliefs, and attitudes based on life experiences as well as gender, age, race, socioeconomic background
- Enabling factors:
  - Skills and abilities, resources available; can be positive or negative
- Reinforcing factors:
  - Presence or absence of support, encouragement or discouragement from those around you

Factors That Influence Behavior-Change Decisions

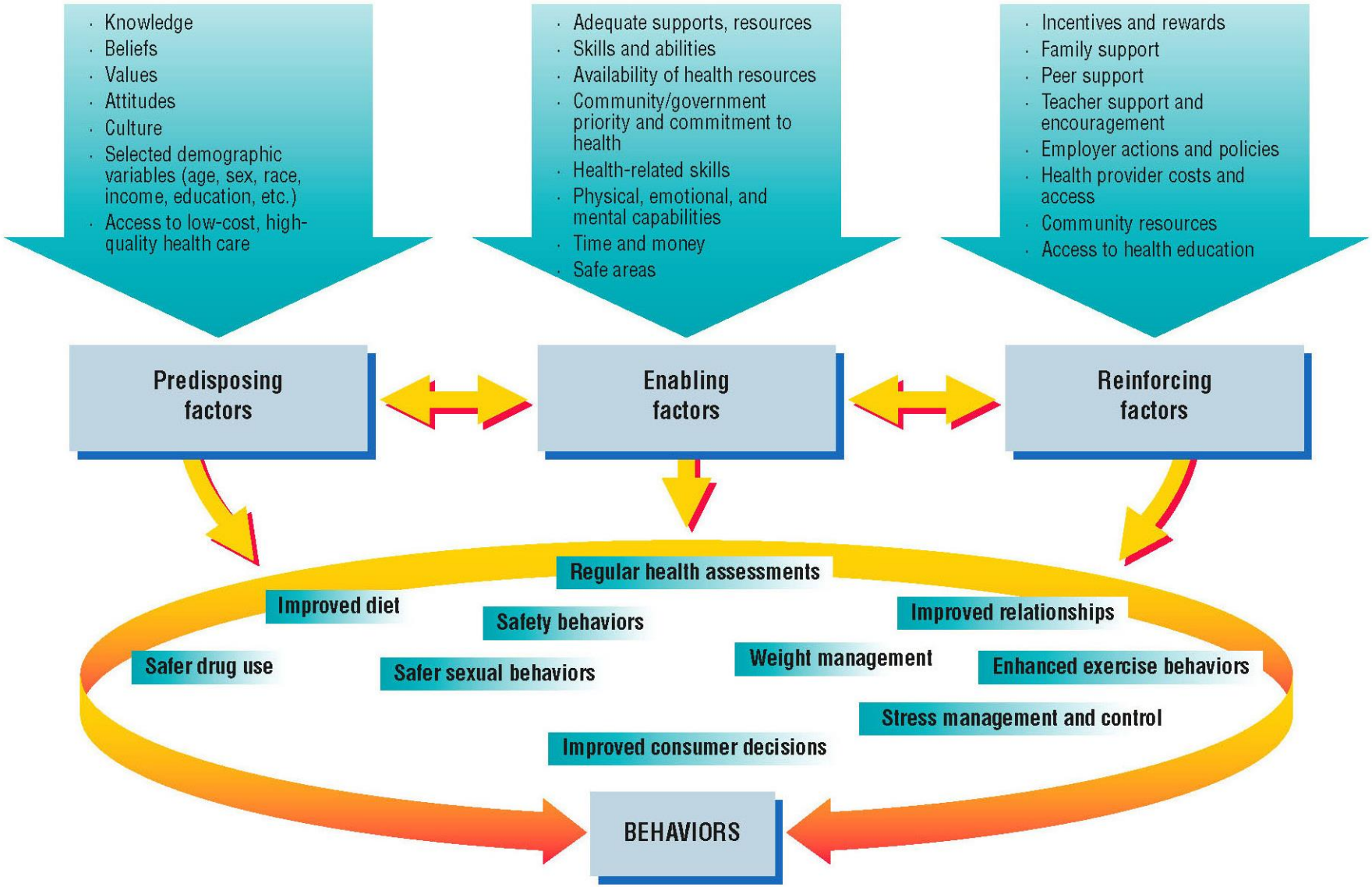


Figure 1.3

Who is Responsible For Following Behavior…

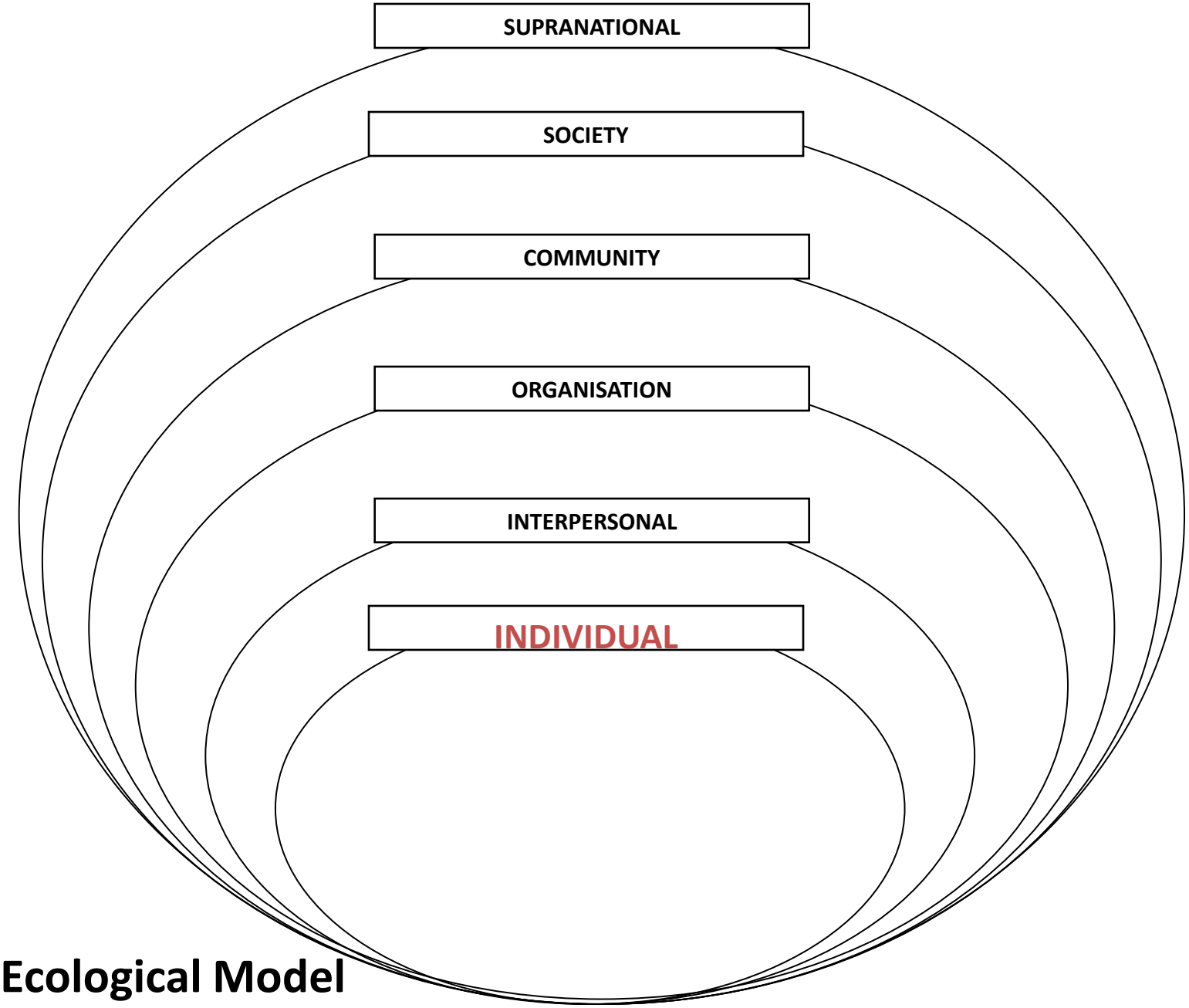
- Smoking and alcohol abuse
- Unsafe sex
- Eating junk food.

Smoking and Alcohol Abuse

- Individuals (choice)
- Communities (norms regarding smoking)
- Health policymakers
- Legislators & tax assessors
- Tobacco company executives
- Decision-makers in marketing companies

Unsafe Sex

- Individuals (abstinence, fidelity, condoms)
- Communities (norms regarding male dominance and multiple partners)
- Poverty (transactional sex for poor women)
- Health policymakers and health workers (effective AIDS prevention programs)



Health Ecological Model

Health Promotion – Art and a Science

Behavior / Psychological Theories by Intervention Level

Planned Behavior

Stage of change Model

Self-efficacy Theory

Attribution Theory

Health Belief Model

Self-Regulatory Theories

Social Cognitive Theory

Diffusion of Innovation

Social network

Stage Theory of Organizational Change

Organizational Development

Interorganizational Relationship Theory

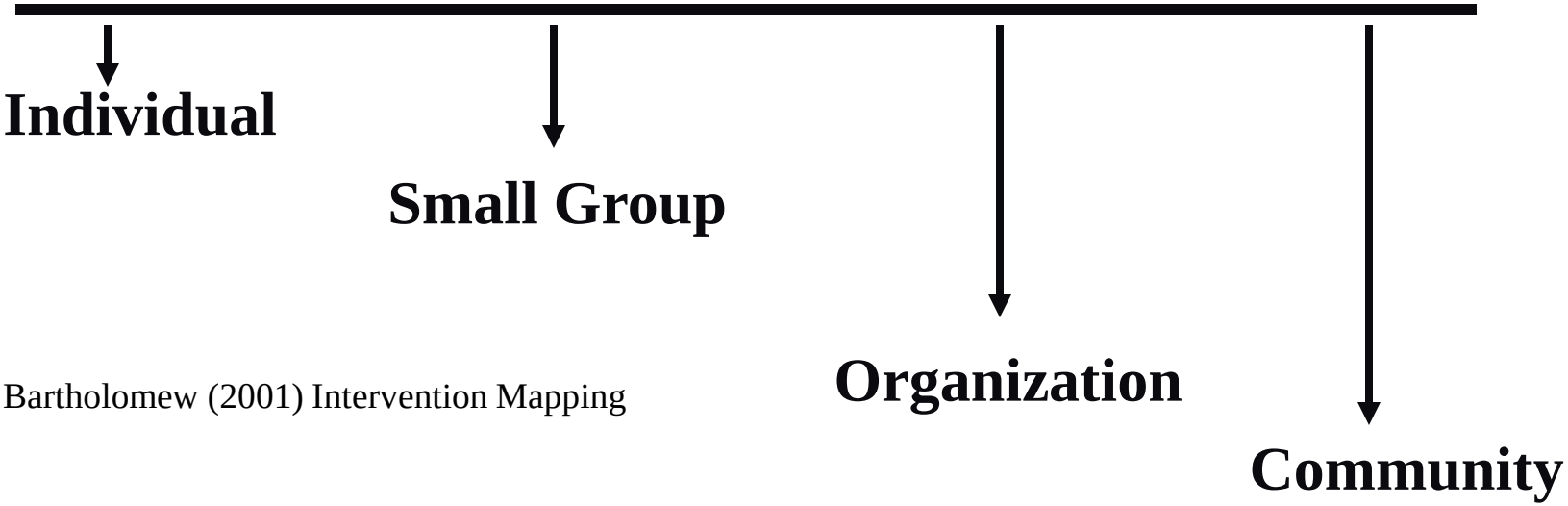
Social Network & Social Suppo

Diffusion of Innovation

Community Organization

Agenda Building

Policy Window Theory



Bartholomew (2001) Intervention Mapping

Example

Smoker 1: Smoking is part of my life. I will never quit!

Smoker 2: Maybe I should consider quitting……

Smoker 3: I will quit tomorrow!

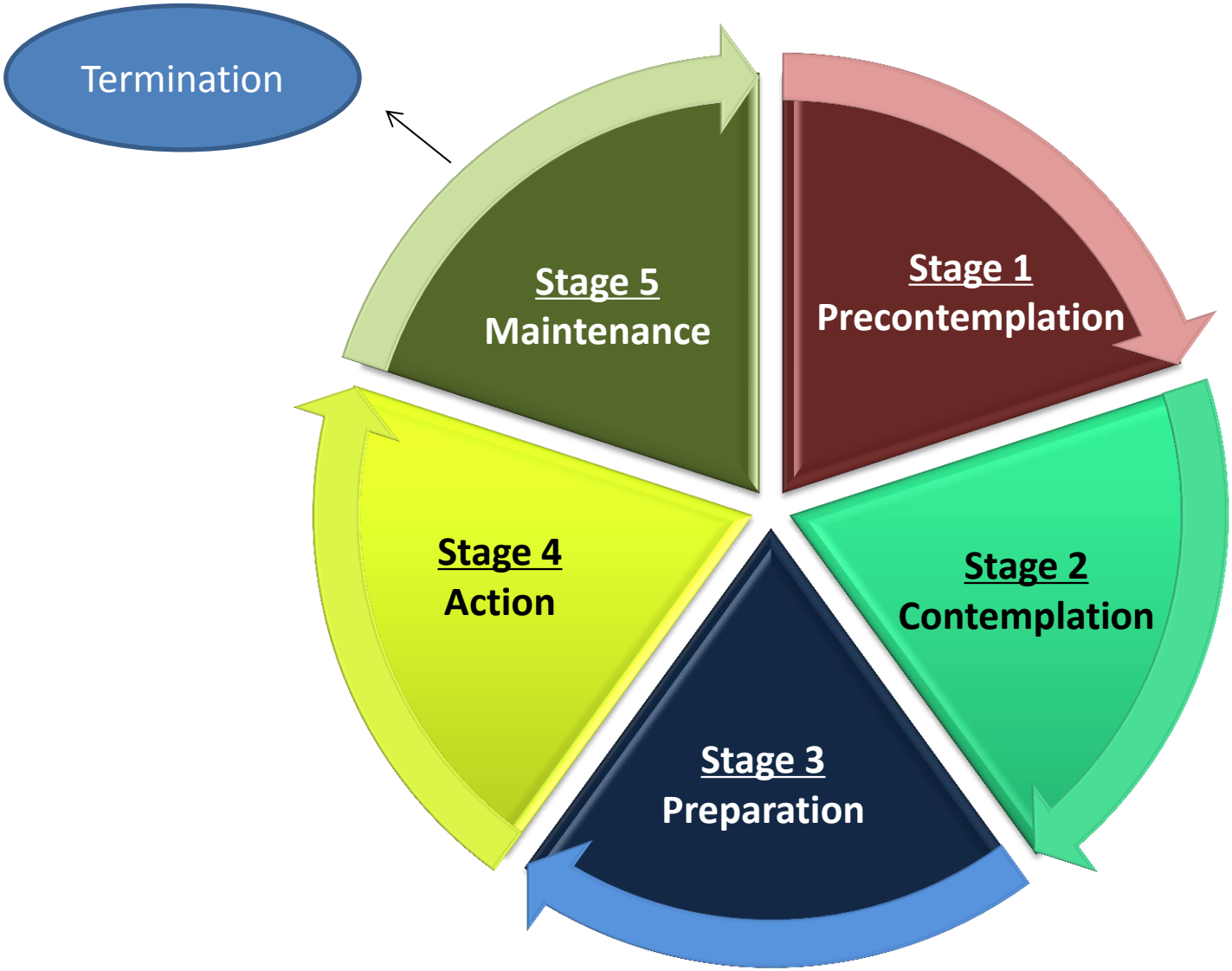
Stages of Change Model

Key Features of the Stages of Change Model

- Deals with intentional behaviour change
- Views change as a process rather than an event
- The change process is characterised by a series of stages of change
- In attempting to change a behaviour a person typically cycles through these stages of change

How to change behaviour ???

Five stages of behaviour change



What are the Stages of Change?

The stages describe a person's motivational readiness or progress towards modifying the problem behaviour

Precontemplation: not considering behavior change in next 6 months

Contemplation: seriously considering behavior change in the next 6 months

What are the Stages of Change?
(Cont'd)

Preparation: planning to change in the next 30 days

Action: the first 6 months of staying change

Maintenance: have changed for more than 6 months

Relapse: transition to an earlier stage

Stages of Behaviour change… Diabetes

Stage 1 Precontemplation	Stage 2 Contemplation	Stage 3 Preparation	Stage 4 Action	Stage 5 Maintenance
I don't have disease …..	I am no more Happy… I am worried… I am having Diabetes	I am ready to change	I am doing…	I will continue to do….
				
Why should I change ????	• I want to LIVE... I will save myself • Prevention is better then cure	• Learn regarding healthy practices • Filter facts from Myths • Doctor calling	• Dietary changes • Physical activity • Regular medicines	• Positive re-enforcement, Negative re-enforcement and awarding • Opinion leader

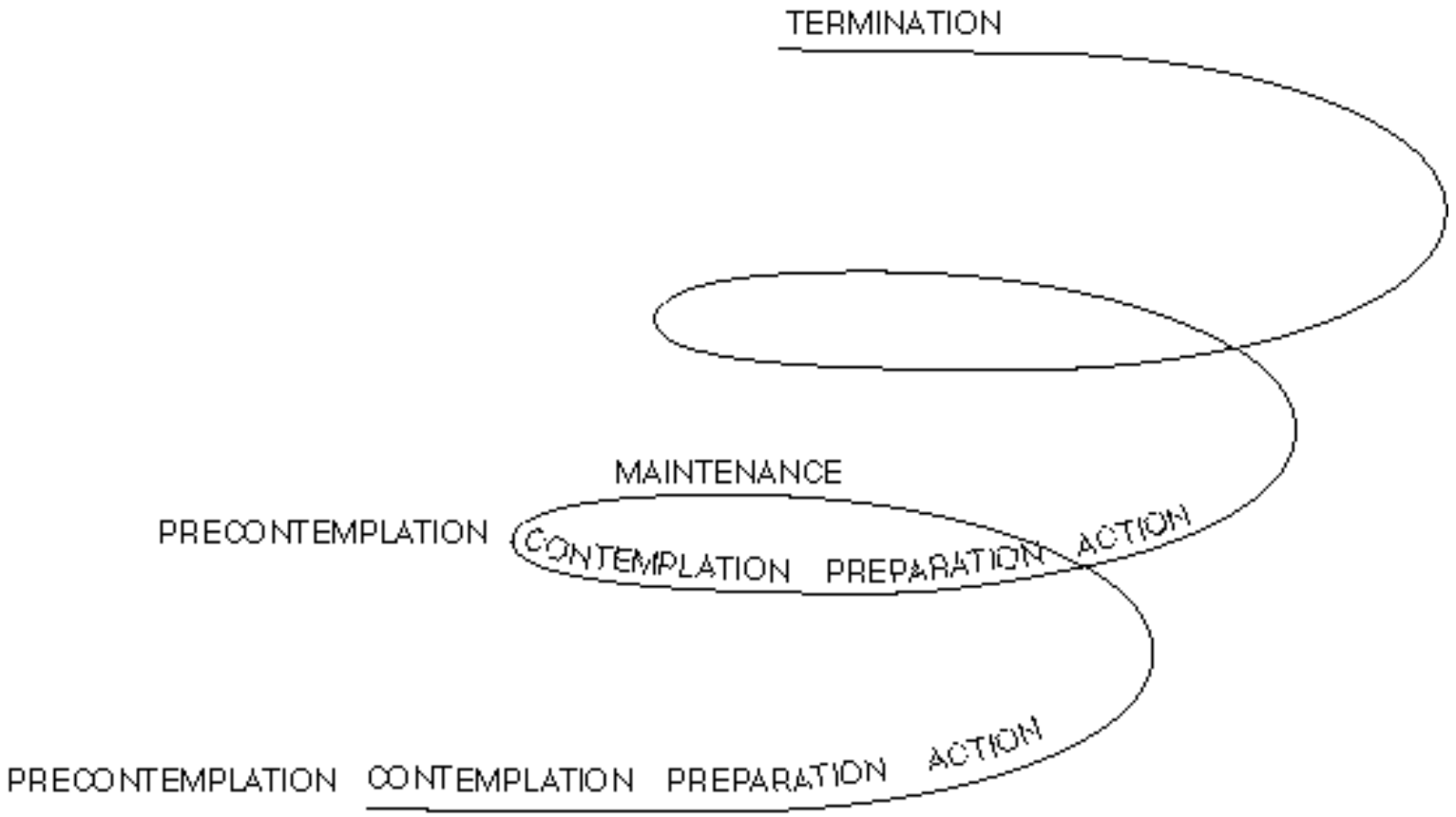


Figure 2. Spiral of change

From Prochaska, DiClemente & Norcross, 1992, p1104

Transtheoretical Model

(Prochaska & DiClemente, 1982, 1983)

Stages of Change in Which Particular Processes Are Emphasized

Precontemplation → Contemplation → Preparation → Action → Maintenance

Consciousness Raising
Dramatic Relief
Environmental Reevaluation

Self-Reevaluation

Self-Liberation

Reinforcement Management
Helping Relationships
Counterconditioning
Stimulus Control

Adapted from Prochaska, DiClemente, & Norcross (1992).
American Psychologist, 47, 1102-1114.

The first five are classified as Experiential Processes and are used primarily for the early stage transitions. The last five are labeled Behavioral Processes and are used primarily for later stage transitions.

Processes of Change: Experiential

- **Consciousness Raising [Increasing awareness]**
  I recall information people had given me on how to stop smoking
- **Dramatic Relief [Emotional arousal]**
  I react emotionally to warnings about smoking cigarettes
  Environmental Reevaluation [Social reappraisal]
  I consider the view that smoking can be harmful to the environment
- **Social Liberation [Environmental opportunities]**
  I find society changing in ways that make it easier for the nonsmoker
  Self Reevaluation [Self reappraisal]
- My dependency on cigarettes makes me feel disappointed in myself

II. Processes of Change: Behavioral

- **Stimulus Control [Re-engineering]**
  I remove things from my home that remind me of smoking
- **Helping Relationship [Supporting]**
- I have someone who listens when I need to talk about my smoking
- **Counter Conditioning [Substituting]**
- I find that doing other things with my hands is a good substitute for smoking
- **Reinforcement Management [Rewarding]**
- I reward myself when I don't smoke
- **Self Liberation [Committing]**
- I make commitments not to smoke

Stages of change in smoking cessation – Precontemplation

Stage of Change	Characteristics	Techniques
Pre-contemplation	Not currently considering change: "Ignorance is bliss"	Validate lack of readiness. Clarify: decision is theirs Encourage re-evaluation of current behavior Encourage self-exploration, not action Explain and personalize the risk

Stages of change – Contemplation

Contemplation	Ambivalent about change: "Sitting on the fence" Not considering change within the next month	Validate lack of readiness Clarify: decision is theirs Encourage evaluation of pros and cons of behavior change Identify and promote new, positive outcome expectations

Stages of change – Preparation

Preparation	Some experience with change and are trying to change: "Testing the waters" Planning to act within 1month	Identify and assist in problem solving re: obstacles Help patient identify social support Verify that patient has underlying skills for behavior change Encourage small initial steps

Stages of change– Action

Action	Practicing new behavior for 3-6 months	Focus on restructuring cues and social support Bolster self-efficacy for dealing with obstacles Combat feelings of loss and reiterate long-term benefits

Stages of change – Maintenance

Maintenance	Continued commitment to sustaining new behavior Post-6 months to 5 years	Plan for follow-up support Reinforce internal rewards Discuss coping with relapse

Exercise

Reading and discussion:

Male involvement in family planning program in Northern Ethiopia: An application of the Transtheoretical model

Question:
1)How to measure the important concepts according to the theory?

2) How do the pros and cons, self-efficacy change through the different process?

The Health Belief Model

HBM

- Initial development based on probability-based studies of 1200 adults
  - People who believed they were susceptible AND believed in the benefits of early detection were much more likely to be screened for TB.
- HBM is a value-expectancy theory
- Based on these assumptions:
  - People desire to avoid illness or get well
  - People believe that a specific health action **that is available to him or her** will prevent illness

Components of HBM

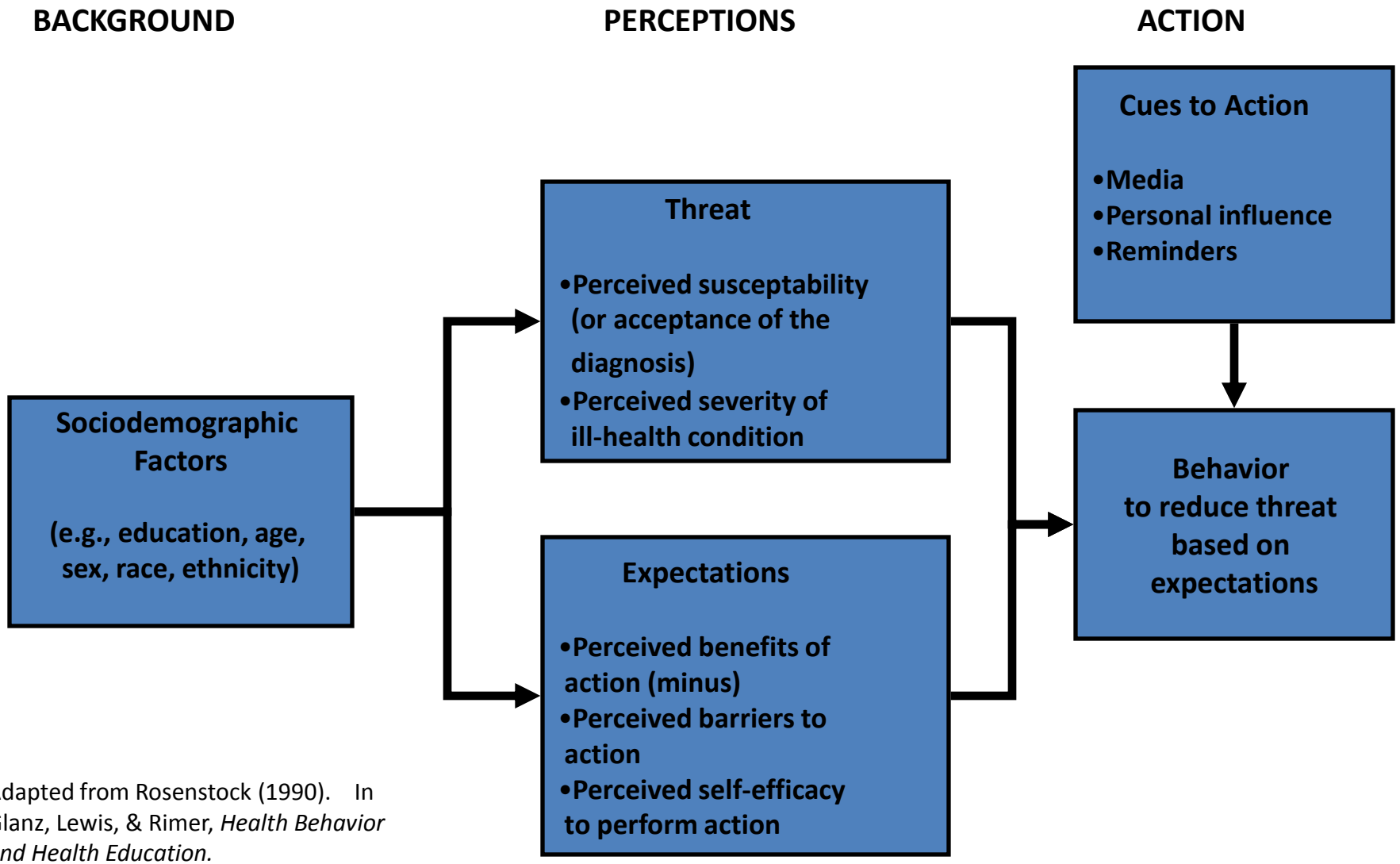
- Perceived Susceptibility: how likely do you think you are to have this health issue?
- Perceived Severity: how serious a problem do you believe this health issue is?
- Perceived Benefits: how well does the recommended behavior reduce the risk(s) associated with this health issue?
- Perceived Barriers: what are the potential negative aspects of doing this recommended behavior?

Additional Components of HBM

- Cues to Action: factors which cause you to change, or want to change
- Self-Efficacy: one's "conviction that one can successfully execute the behavior required to produce the outcomes" (Bandura, 1977).
  - As the health concerns of the nation have shifted to lifestyle-related conditions, self-efficacy has taken on greater importance, both as an independent construct, and as a component of HBM

Health Belief Model

(Rosenstock, Strecher, & Becker, 1988)



Adapted from Rosenstock (1990). In Glanz, Lewis, & Rimer, *Health Behavior and Health Education.*
[Need to confirm source.]

Content areas addressed in motivational interviewing

- **Relevance:** Talk about why quitting is personally relevant.
- **Risks:** Discuss side-effects and dangers of tobacco use.
- **Rewards:** Discuss the benefits of stopping.
- **Roadblocks:** Identify barriers to quitting.
- **Repetition:** Talk about tobacco cessation at every visit.

PHS Clinical Practice Guideline: *Treating Tobacco Use and Dependence: 2008 Update*

5 R's enhance future quit attempts.

Application Exercise

- Please choose a health behavior and population
- Assume you are an advertising specialist contracted to develop a persuasive communication (poster, news advertisement etc.) to improve the health behavior for the population
- Create a message that includes severity, susceptibility, response efficacy, and self-efficacy for the target population

Theory of Reasoned Action and Theory of Planned Behavior

History of the model

- Originated in the field of social psychology.
- The concept of “attitude” as a trigger and predictor of human behavior.
- Value-Expectancy theory

Assumptions of the Model

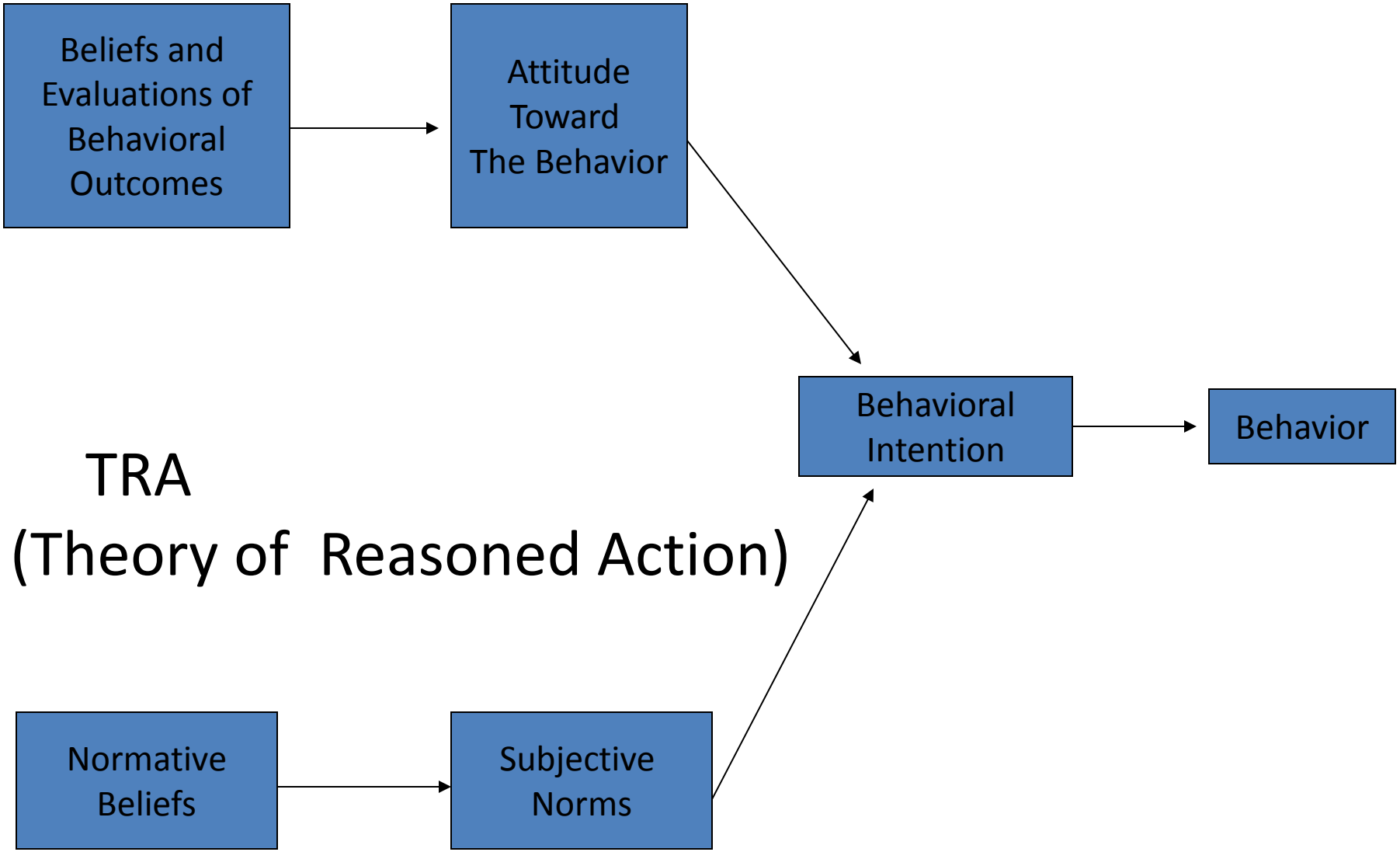
- Human behavior is under the voluntary control of the individual
- People think about the consequences and implications of their actions behavior the decide whether or not to do something.
- Therefore, intention must be highly correlated with behavior.
  - Whether or not a person intends to perform a health behavior should correlate with whether or not they actually DO the behavior

Components of the Model

- Behavior is a function of 2 things:
- Attitudes toward a specific action
  - What will happen if I engage in this behavior?
  - Is this outcome desirable or undesirable
- Subjective norms regarding that action
  - Normative beliefs: others expectations
  - Motivation to comply: do I want to do what they tell me? How much? Why?

What ISN’T in the Model

- Other factors such as the modifying factors in the HBM (demographics, etc.) are not directly addressed.
- They can have an indirect effect on the other components, but are not specifically incorporated into the model.

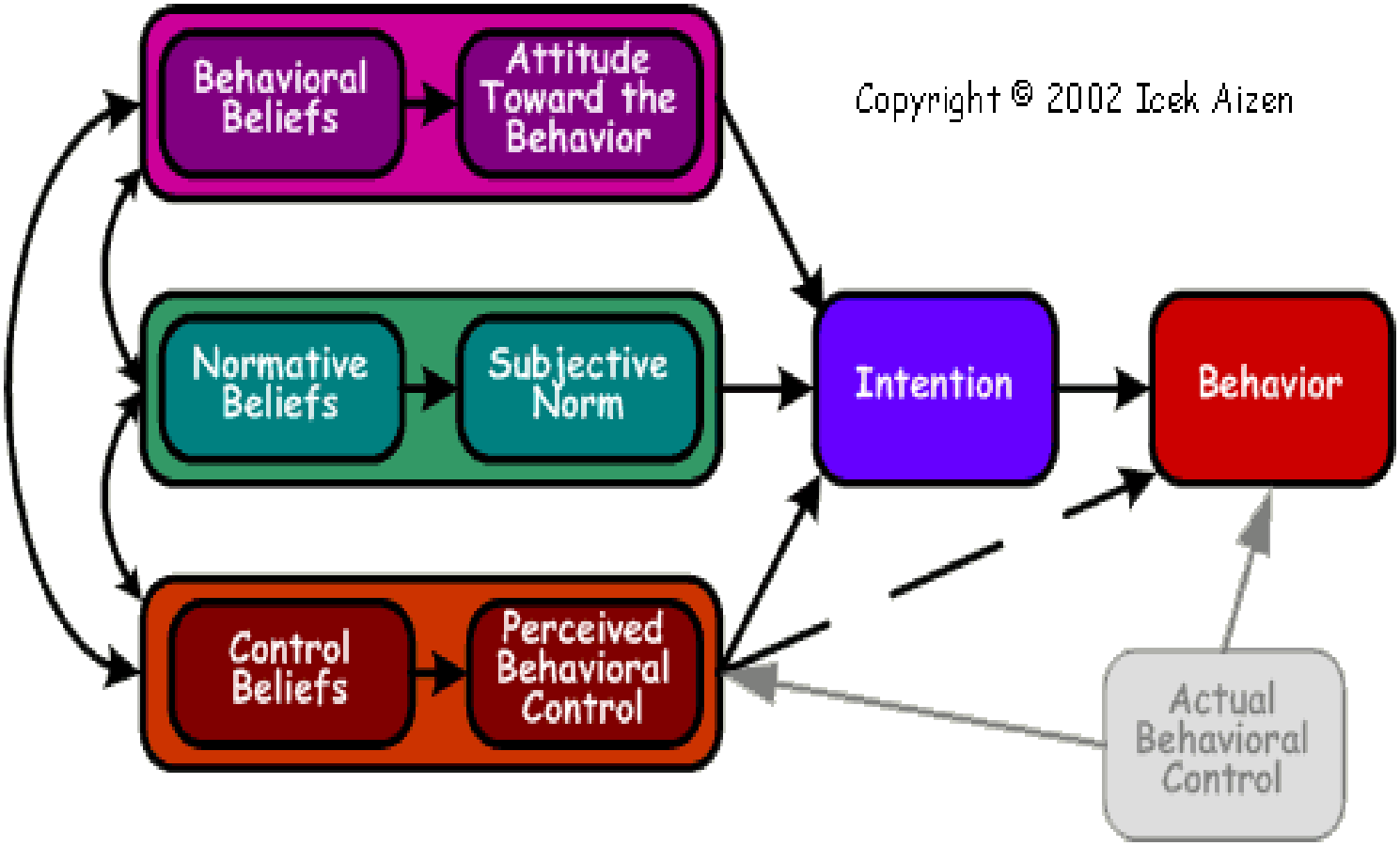


TRA
(Theory of Reasoned Action)

Limitations of TRA

- People who have little power over their behaviors (or believe they have little power).
- As a result, Ajzen added a third element to the original theory:
- Perceived Behavioral Control

Theory of Planned Behavior



Uses for TRA/TPB

- TRA works best when applied to behaviors that are under the person's control (or they think they are)
- TPB works best when the behavior is NOT perceived to be under the person's control.

Limitations

- Factors such as demographics and personality still not in model
- No clear definition of perceived behavioral control (hard to measure)
- Assumption that perceived behavioral control predicts actual behavioral control.
- The more time between behavioral intent and actually doing the behavior, the less likely the behavior will happen.
- Theory assumes people are rational and make systematic decisions based on available information. Ignores unconscious motives

Measurement: Example of Glove Use
(Levin, 1999)

Behavioral Intention: How likely is it you will wear gloves each time?

Attitude Toward Behavior: How important do you think wearing gloves is?

- ***Behavioral Belief***: Is wearing gloves when there is contact with blood… awkward/inconvenient/keep you safe?
- ***Evaluation of Behavioral Outcome***: How likely is it that wearing gloves will be effective?

Subjective Norm: To what extent do the majority of people think it is a good idea to wear gloves?

- ***Normative beliefs*** – Do most people in healthcare think it is important to wear gloves?
- ***Motivation to comply*** – How much do you want to comply?

Perceived Behavior Control:

- ***Control beliefs***: Is it up to you whether or not you wear gloves?
- ***Perceived power***: Do you have the ability to put on gloves?

Assumption of Interpersonal-level health behavior theory

- **Individuals exist within a social environment, and Individuals are influenced by the social environment.**
  - The social environment includes family members, coworkers, friends, health professionals, and others.
  - The opinions, thoughts, behavior, advice, and support of the people surrounding an individual influence his or her feelings and behavior

Social Cognitive Theory (SCT)

- **SCT is one of the most frequently used and robust health behavior theories at interpersonal level. It has been used successfully as the underlying theory for behavior change in areas ranging from dietary change to pain control.**

- **SCT evolved from research on *Social Learning Theory (SLT),* which asserts that people learn not only from their own experiences, but by observing the actions of others and the benefits of those actions.**

- **Bandura updated SLT, adding the construct of self-efficacy and renaming it SCT.**

The Bobo Doll Study

(Albert Bandura: Biographical Sketch, n.d.)

Observational Learning

In a set of well-known experiments, called the "Bobo doll" studies, Bandura showed that children (ages 3 to 6) would change their behavior by simply watching others.

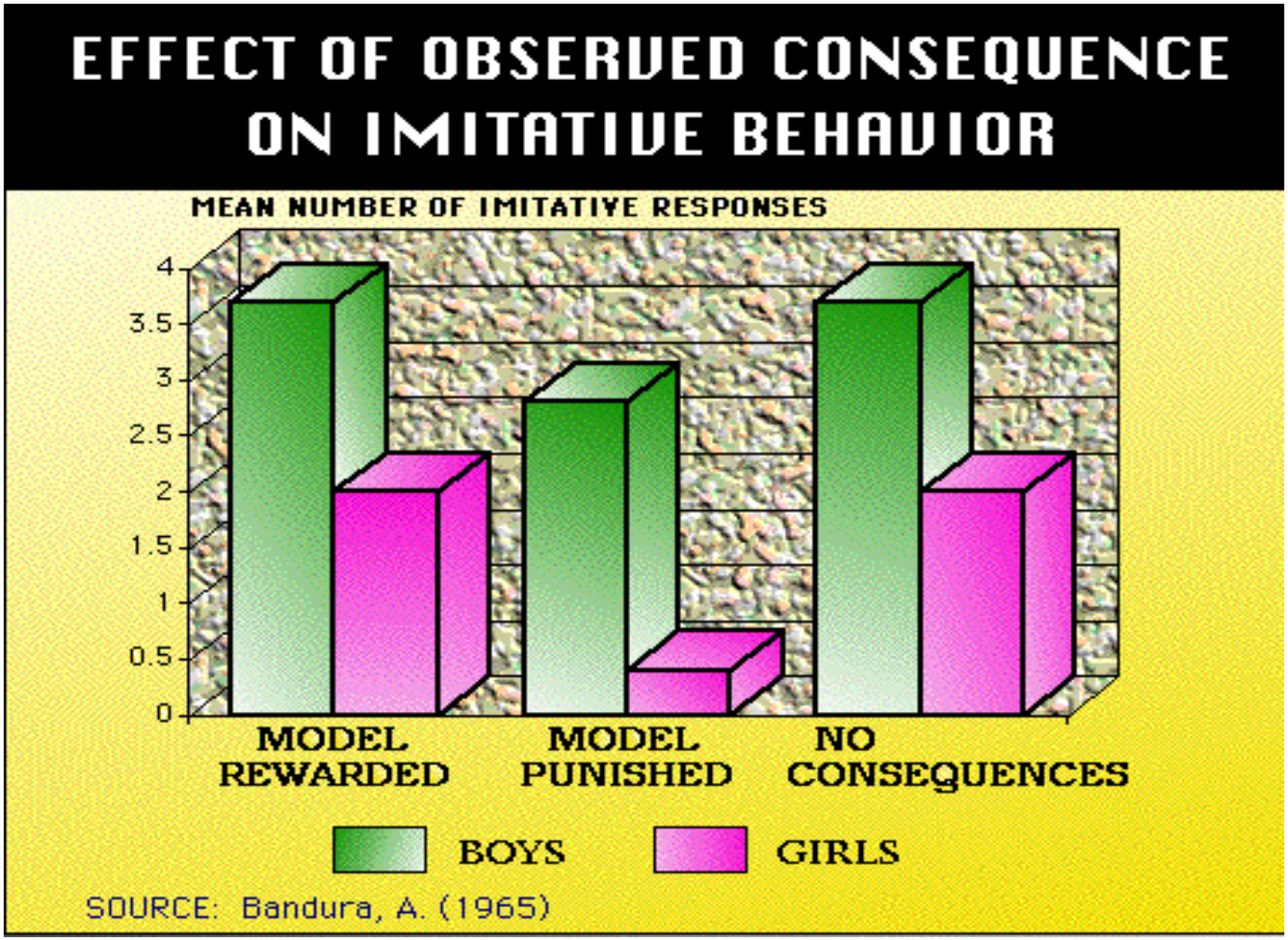
Observational Learning

Bandura's earlier work on observational learning set the stage for his work in social cognition.

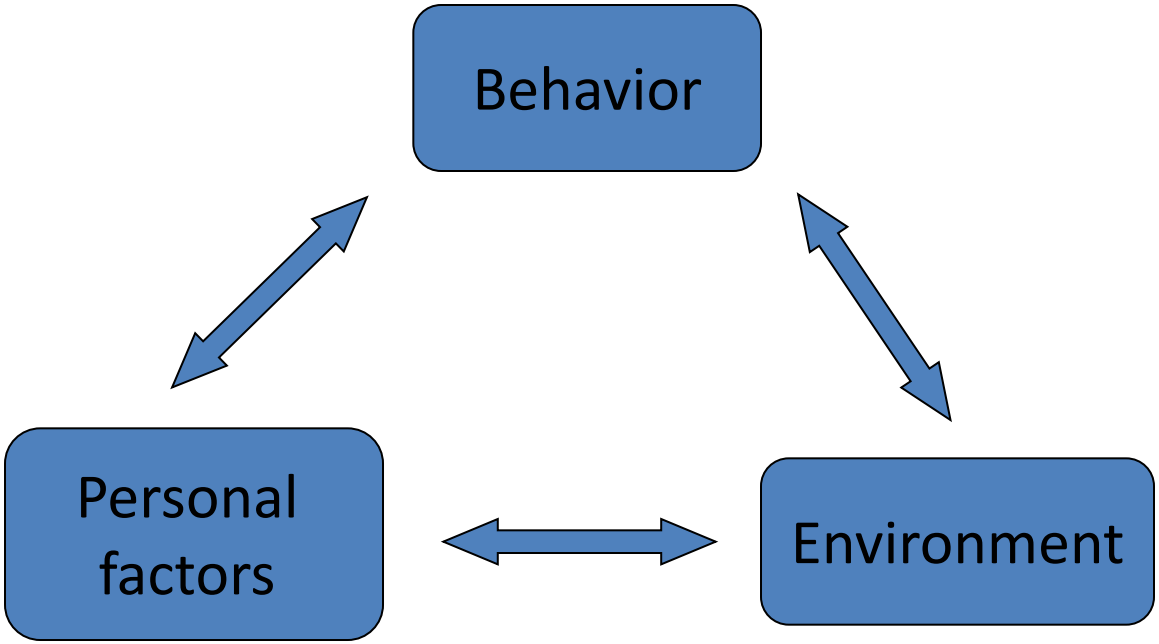
Observational (or social) learning proposed two primary modes of learning:

- **Modeling**
- **Imitation**

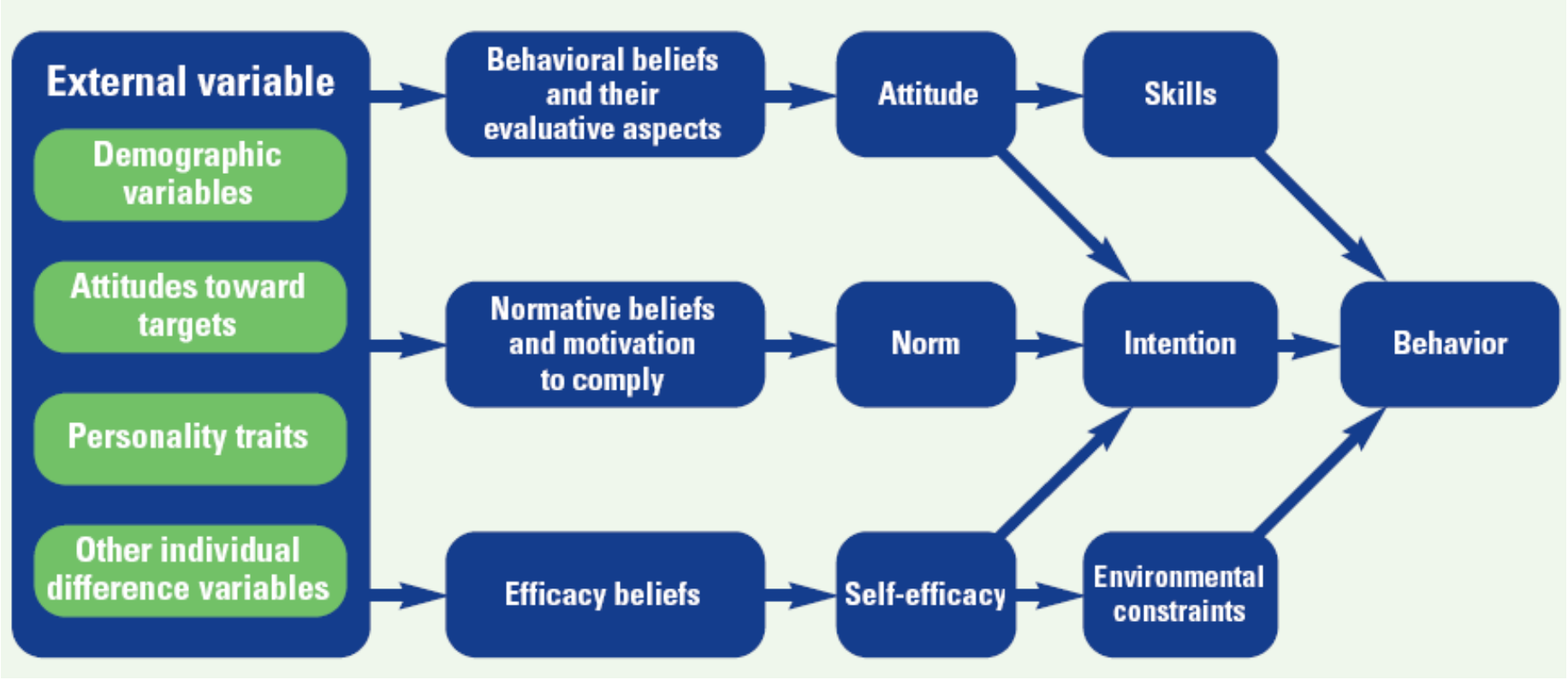
Observational Learning



- An interpersonal theory that covers both determinants of the behavior and the process of behavior change


Behavior
Personal factors
Environment

how self-efficacy, environmental, and individual factors impact behavior



Constructs of SCT

1. **Reciprocal determinism**

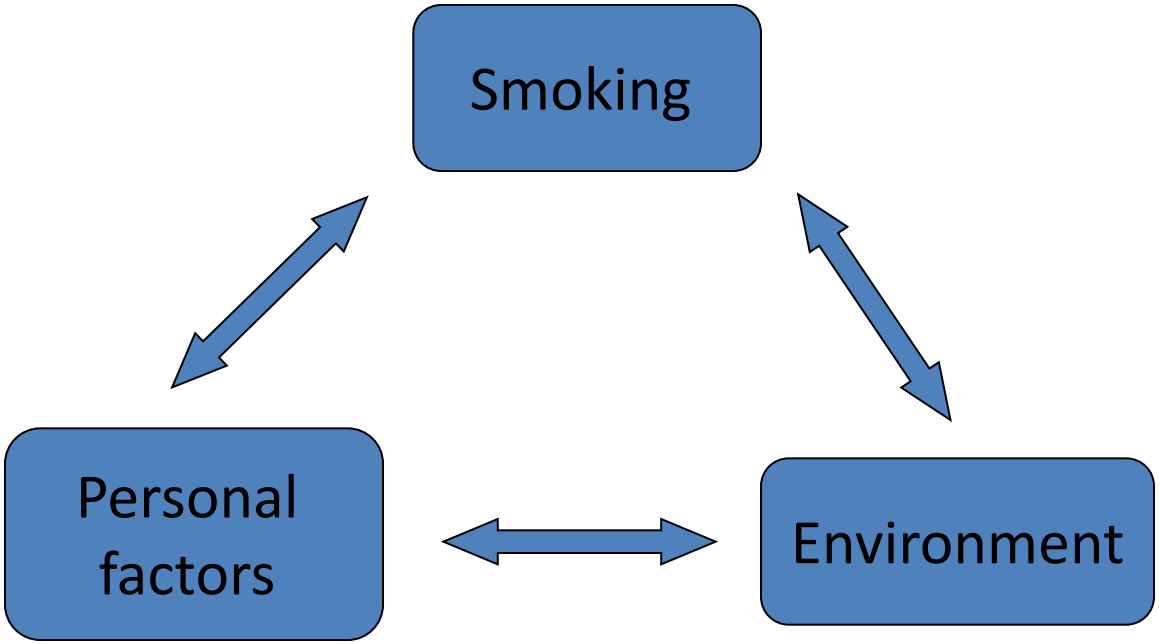
   Definition: Interactions between behavior, personal factors, and environment, where each influences the others.

A simple example illustrating this potential three-way bidirectional influences of behavior (B), environment (E), and personal factors (P)

- John is learning to read (B) because his class has “reading time” every day at school (E) and he *believes* that he can learn to read (P)
- Encouragement from his teacher (E) and improved skill (B) increase John’s *confidence* in his ability (P)
- When John is reading poorly on a particular day (B) and his confidence begins to wane (P), he finds easier books to read (E) so that he can practice basic skills & restore his confidence (P)

- The social cognitive theory explains how people acquire and maintain certain behavioral patterns, while also providing the basis for intervention strategies (Bandura, 1997).
- Evaluating behavioral change depends on the factors environment, people and behavior. SCT provides a framework for designing, implementing and evaluating programs.

- Please give an example of health behavior



Self-Efficacy

Self-reflection is a second human quality and is expressed in the concept of self-efficacy.

> **"Self-efficacy is the *belief* in one's capabilities to organize and execute the sources of action required to manage prospective situations." (Bandura, 1986)**

Self-Efficacy

Self-efficacy impacts:

- **The choices we make**
- **The effort we put forth**
- **How long we persist when we confront obstacles (especially in the face of failure)**
- **How we feel about ourselves, others, the task, etc.**

Self-Efficacy

Self-efficacy is influenced by:

- **Mastery experiences**
- **Vicarious experiences**
- **Social persuasions**
- **Physiological states**

Self-Regulation

Self-regulation is a third human capability and has several subfunctions:

- **Goal-setting**
- **Self-observation and monitoring**
- **Performance judgment and evaluation**
- **Self-reaction (e.g., self-satisfaction, self-worth, distress)**

Social Cognition

Bandura's basic position is that

> **"People's level of motivation, affective states, and actions are based more on what they *believe* than on what is objectively the case."**

Application of SCT

- 1. How SCT was applied and assessed
- 2 . Focus “theoretical fidelity”