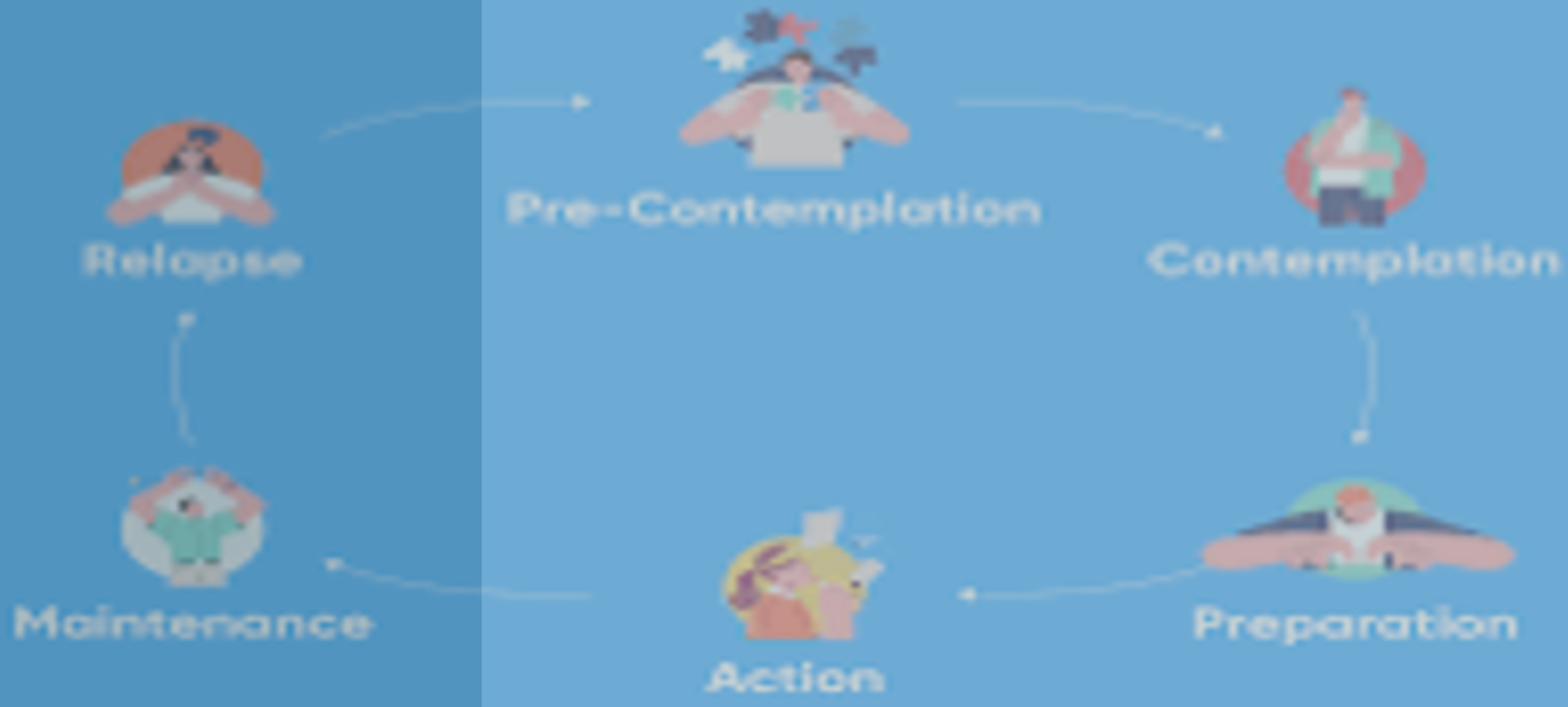
UNDERSTANDING BEHAVIOR CHANGE



Dr. Mark Schure

Montana State University

2023 Statewide Rural Opioid Technical Assistance Training

CONTENTS

- Introduction
- Why theories? – theories as tools
- Summary of prominent health behavior theories and their key constructs
- Applications of theories in research and program development, implementation, and evaluation

LEARNING OUTCOMES

1. Describe several theories as they relate to more effective behavior change in health interventions

2. Assess the context for any given health behavior

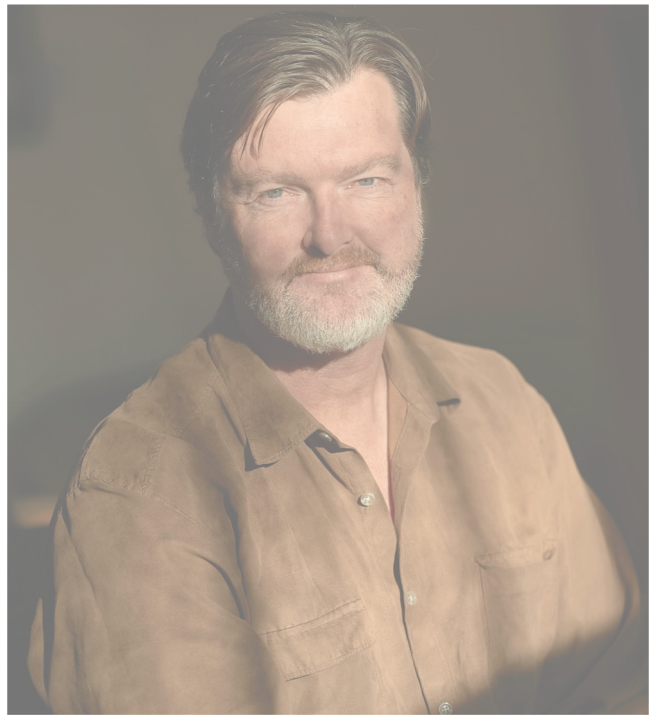
3. Apply key theoretical constructs to any given behavior change intervention

A BIT ABOUT MYSELF

Teaching at MSU for 7 years in the community health program

Teach a graduate course ”Theories and models in health”

Scope of research is in developing and evaluating novel mental health interventions



WHY THEORIES?

- **Definition:** A way to explain why something happens or a way to solve a problem
- Can also be used to produce desired behavior change
- In social sciences, theory is used to guide programming, research, and evaluation
  - A roadmap to planning
  - A multi-faceted toolset to produce the desired change in beliefs, attitudes, knowledge and behaviors

KEY HEALTH BEHAVIOR THEORIES

Key prominent health behavior theories:

1. Social Ecological Model
2. Health Belief Model
3. Theory of Planned Behavior
4. Transtheoretical Model
5. Health Communication and Social Marketing

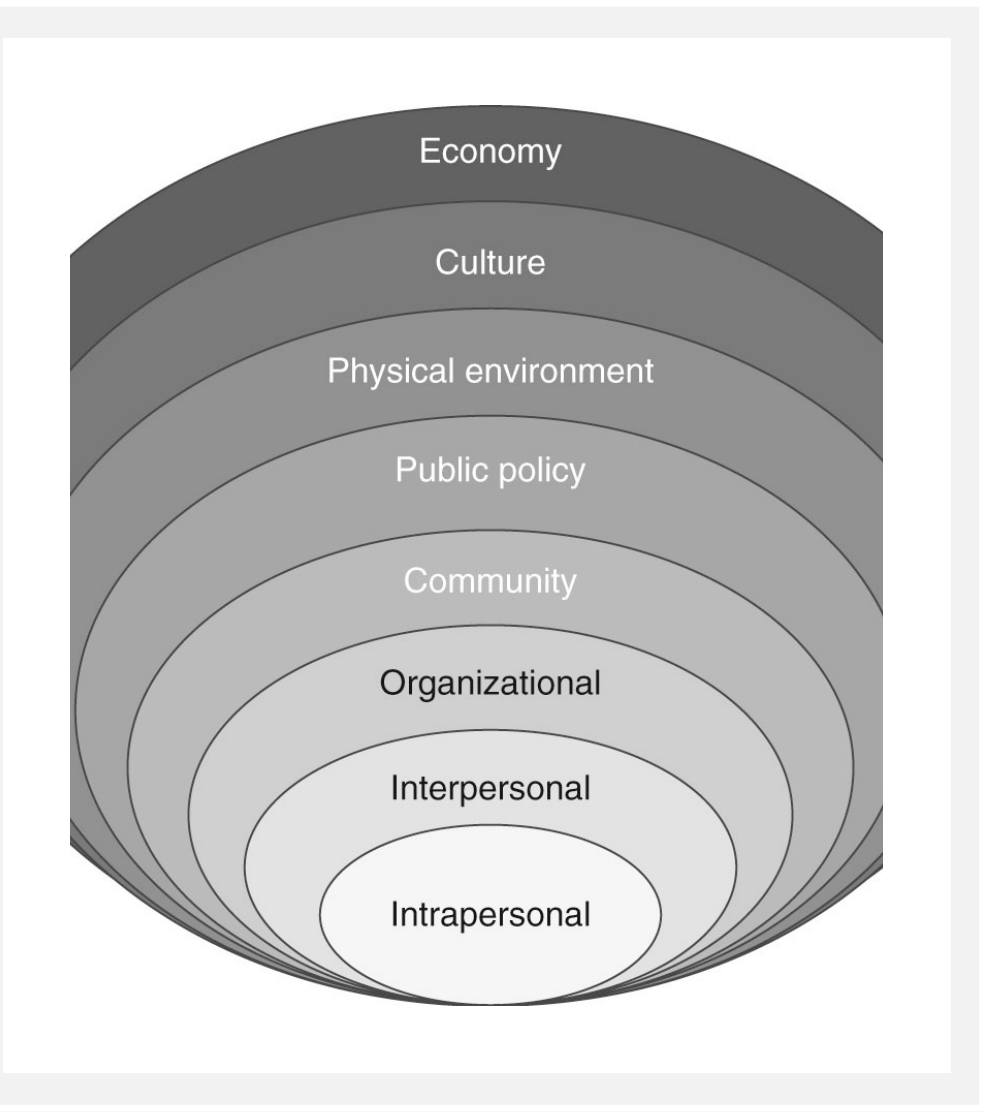
SOCIAL ECOLOGICAL MODEL (SEM)

The "Big Picture" theory

Layers of Influence

- Intrapersonal (individual)
- Interpersonal (relational)
- Community…

Many of these factors may interact to ultimately influence individual behavior.

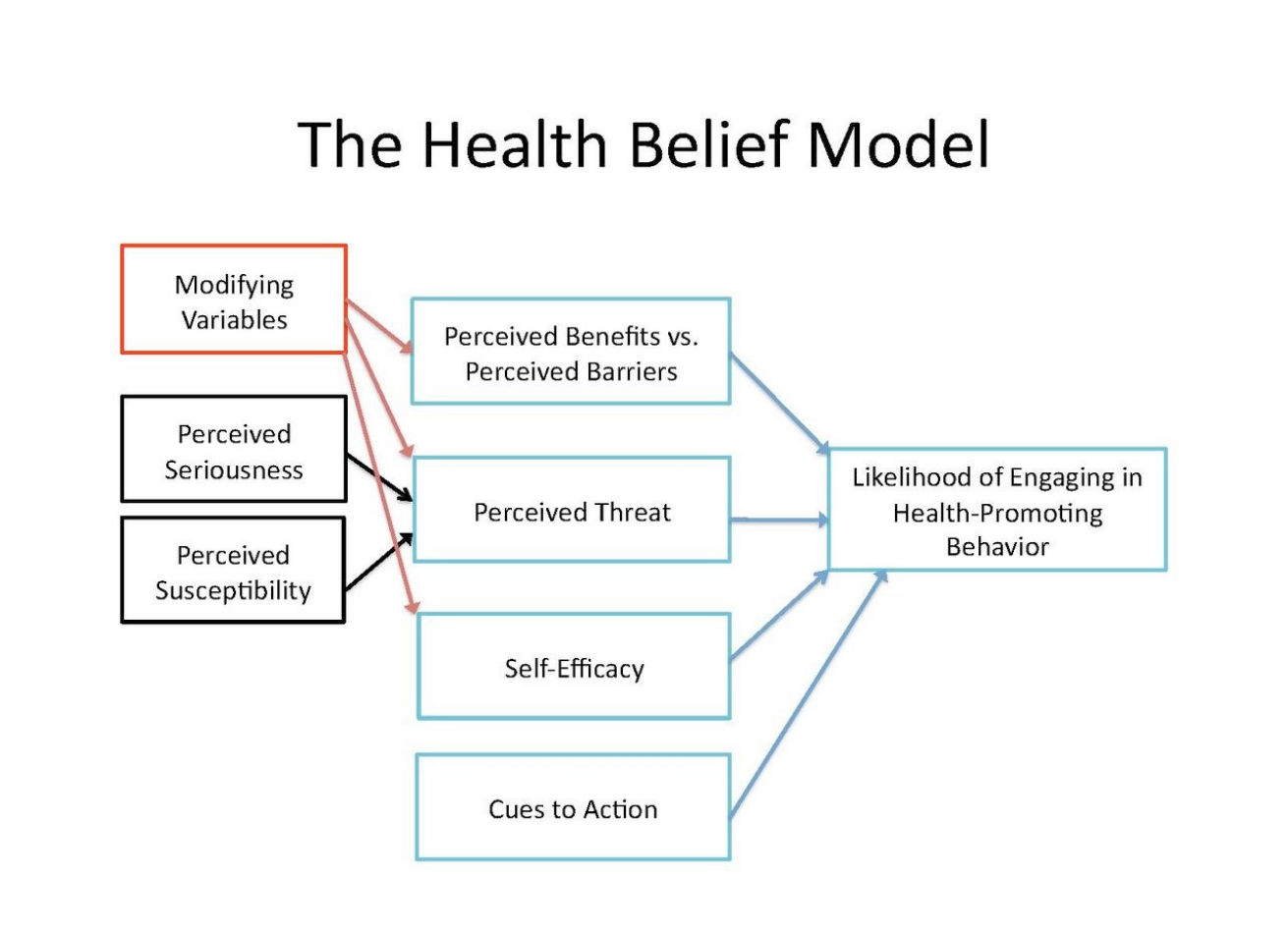


Question 2: Thinking about your line of work and your agency, which layer(s) of influence would you deem most important to focus on and why?

Question 1: If you are trying to prevent recreational opioid use, which layer(s) of influence would you deem most in need of examination to ensure a program's ability to have the greatest impact?

- An Intrapersonal Theory
- First! An introduction to theoretical constructs
  - Measurable concepts
  - Arranged in a meaningful and hypothesized direction of influence (the structure of the theory)

- HBM constructs, encompassing:
  - Knowledge
  - Beliefs
  - Attitudes
  - Perceptions
  - + Internal or external cues prompting the "likelihood" of behavior change(s)



Question: If you are trying to prevent recreational opioid use, which construct(s) would you focus on and why?

APPLICATION OF HBM

Study sample: 225 Youth in Hong Kong, China

Findings showed the following to be significant risk factors for psychoactive substance use:

- Perceived susceptibility (previous use of substance use)
- Cues to action (peer pressure)

Significant protective factor was perceived barriers (cost and worry of being arrested)

Prevalence and cognitions related to psychoactive substance use (n = 255).

	n	%
Substance use behaviors		
Have ever used psychoactive substance	35	13.7
Have used psychoactive substance in the last year	22	8.6
HBM variables		
Perceived susceptibility to use psychoactive substances[#]		
I get in touch easily with people who use psychoactive substance	57	22.4
I often go to places where people use psychoactive substance	36	14.1
Perceived severity of psychoactive substance use[#]		
Using psychoactive substance would strongly affect my appearance	192	75.3
Using psychoactive substance would strongly affect my intelligence	225	88.2
Using psychoactive substance would strongly affect my health	235	92.2
Perceived benefits of psychoactive substance use[#]		
Using psychoactive substance would make me feel happy	58	22.7
Using psychoactive substance would reduce my stress	45	17.6
Using psychoactive substance would help me get closer to my friends	33	12.9
Using psychoactive substance would help me forget about unpleasant things in life such as unemployment.	45	17.6
Perceived barriers of psychoactive substance use[#]		
Using psychoactive substance may make me arrested	223	87.5
The price of the psychoactive substance is high	166	65
Cues to action[#]		
My friends would give me psychoactive substance	39	15.3
My friends would ask me to use psychoactive substance	41	18.2
Perceived self-efficacy of psychoactive substance use[#]		
I do not have any difficulty in using psychoactive substance	72	28.2
I do not have any difficulty in getting psychoactive substance	71	27.8
I can stop using psychoactive substance anytime if I want to	63	24.7
Intention to use psychoactive substances in the next 12 months		
Among all participants (n = 255)	42	16.5
Among never users (n = 220)	19	8.6
Among ever users (n = 35)	23	65.7
Among users in the last 12 months (n = 22)	19	86.4

[#] The number of participants who rated “agree” or “strongly agree”.

MEASURING HBM CONSTRUCTS

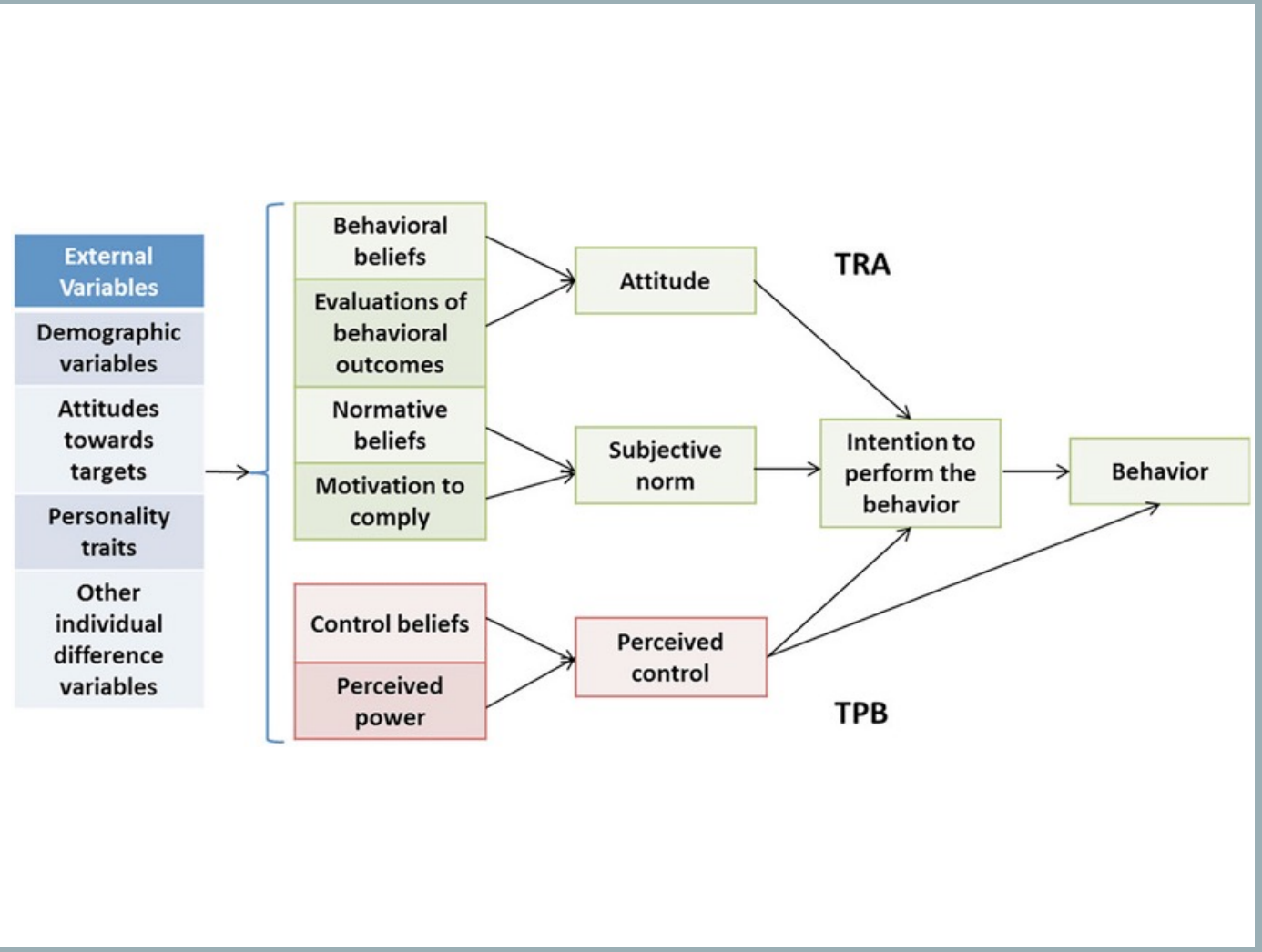
THEORY OF PLANNED BEHAVIOR (TPB)

An Intrapersonal Theory

Began with the Theory of Reasoned Action (TRA) and then expanded to include power/control constructs

Core construct areas:

- Attitudes
- Subjective norms
- Perceived control
- "Intention" (akin to HBM's "likelihood")



Question: If you are trying to prevent recreational opioid use, which construct(s) would you focus on and why?

MEASURING TPB

Table 4. Correlation of salient beliefs with intention to misuse prescription opioid medication for recreational purposes.

Belief Measure	Outcome Expectation (b)		Outcome Evaluation (e)		Correlation with Intention
	M	*SD*	*M*	*SD*	$b_i e_i$
Behavioral Beliefs					
'Allow me to have more fun'	1.57	1.28	.78	2.45	.279*
'Help me relax'	2.17	1.87	1.10	2.33	.294*
'Make me feel good'	2.13	1.85	.93	2.40	.262*
'Allow me to get high'	3.21	2.48	-1.76	1.91	.205*
'Cause me to become addicted'	4.02	2.50	-2.86	.70	.081*
'Cause me to make bad decisions'	4.91	2.35	-2.85	.67	.217*
'Cause me mental illness'	3.85	2.33	-2.84	.62	.186*
'Cause me physical harm'	4.51	2.32	-2.88	.56	.214*
'Cause me legal trouble'	5.31	2.18	-2.91	.54	.253*
'Cause me disappointment or regret'	5.47	2.17	-2.83	.64	.301*
	Normative Beliefs		Motivation to Comply		
Normative Beliefs	*(b)*		*(e)*		$b_i e_i$
'My close friends think'	1.35	.95	3.93	2.16	.219*
'My parents think'	1.13	.66	5.10	2.07	-.005
'Other close relatives think'	1.14	.65	4.21	2.18	-.014
'My doctor think'	1.17	.77	5.39	1.90	-.024
'My professors think'	1.20	.77	4.20	2.08	.016
'My boyfriend/girlfriend or spouse'	1.25	.84	5.03	2.05	.193*
	Control Factor		Perceived Power		
Control Beliefs	*(b)*		*(e)*		$b_i e_i$
'I will have access to'	2.34	2.12	2.42	1.80	.359*
'I will have the opportunity to use'	2.38	2.14	2.29	1.73	.375*
'My friends will use'	2.10	1.75	1.93	1.44	.385*
'I will be stressed'	6.02	1.88	1.97	1.48	.343*
'I will have to interact with family'	6.41	1.59	1.56	1.27	.253*
'I will know where to find'	2.81	2.40	1.95	1.50	.398*
'I will attend parties'	4.98	2.40	1.92	1.43	.279*
'I will have school obligations'	6.66	1.29	1.63	1.31	.285*

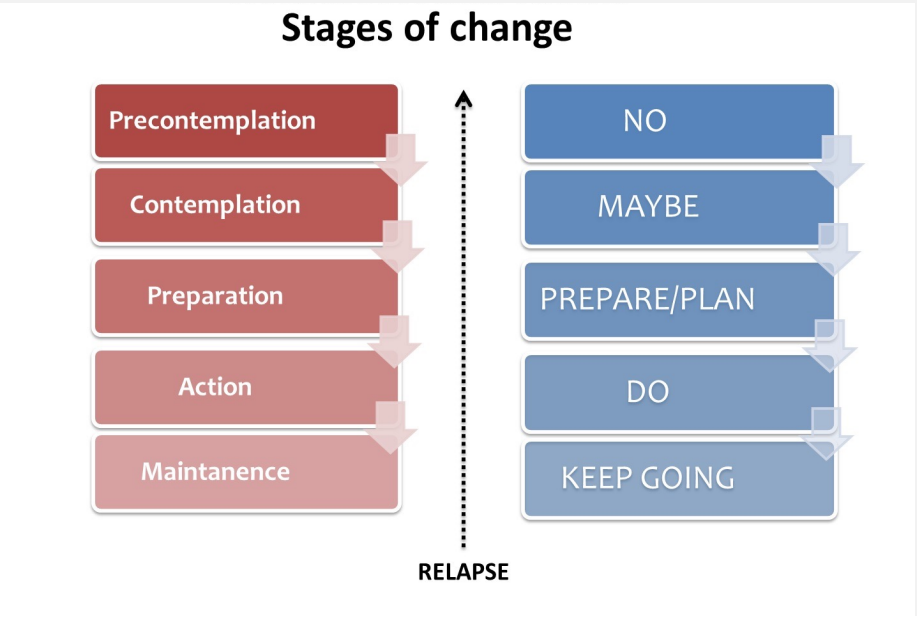
Correlations displayed above are Spearman's rank-order correlations. *P <.05.

APPLICATION OF TPB

Study sample: 776 US college students

Findings show that, with the exception of perceived behavioral control, all TPB constructs were significantly related to intention to use recreational prescription opioid misuse.

Strongest predictors were attitude toward behavior and subjective norms



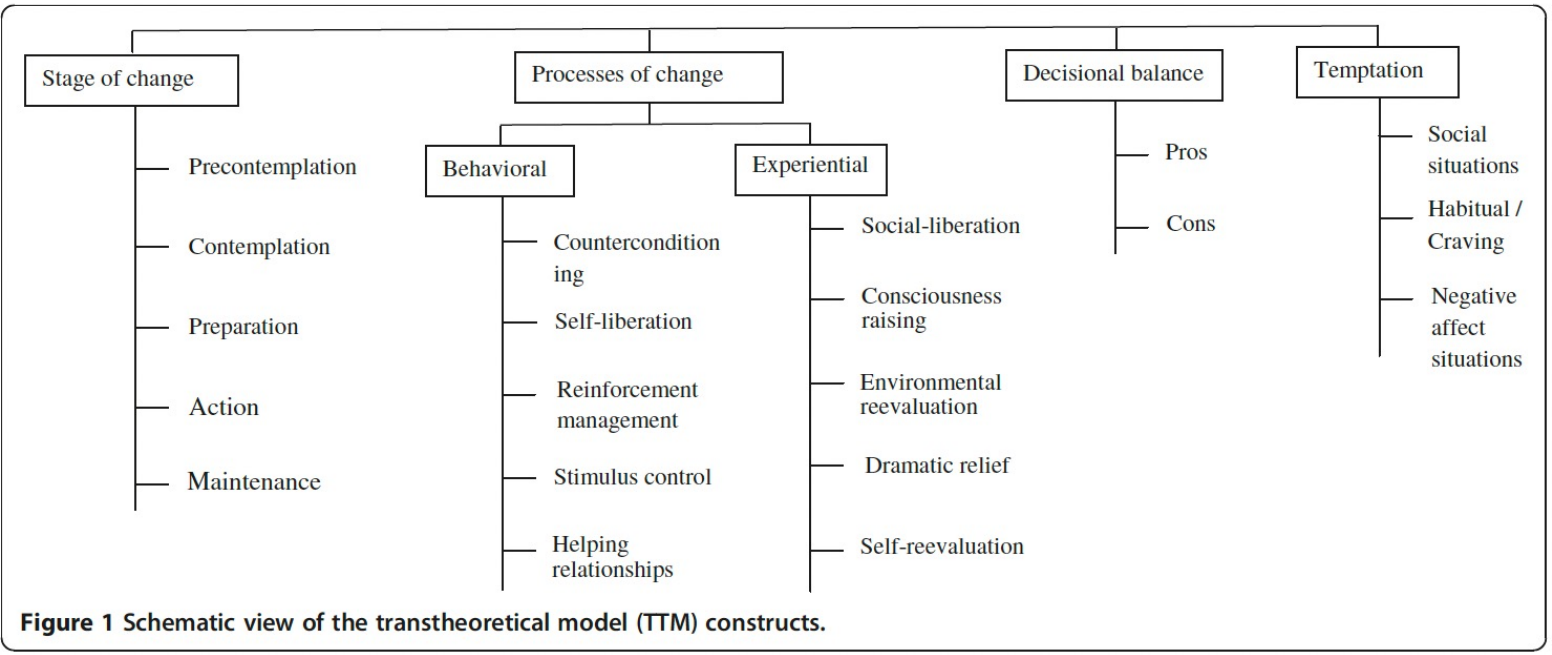


Figure 1 Schematic view of the transtheoretical model (TTM) constructs.

Transtheoretical Model (TTM)

A theory focused on "Stages of Change" or readiness to change health behaviors

It also comes with a comprehensive (10) list of "process of change" constructs that interventionists can use to focus on for each of the 5 stages.

Examples:

- Stimulus Control
- Helping Relationships
- Counter Conditioning

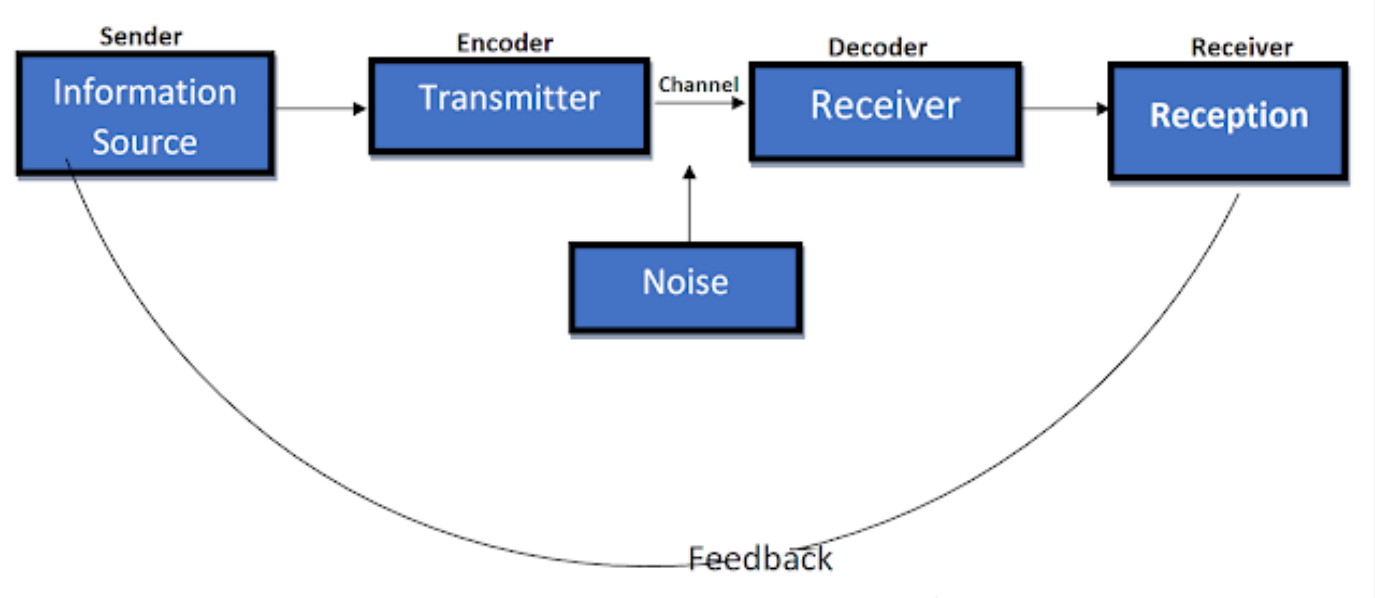
Structures	Descriptions
Stage of change	
Precontemplation	Not thinking of quitting tobacco in the next 6 months.
Contemplation	Thinking of quitting tobacco in the next 6 months
Preparation	Thinking of taking action within 30 days
Action	Changed the behavior within the past 6 months
Maintenance	Behavior change more than 6 months
Decisional Balance	
Gains	Benefits of change
Costs	Costs of change
Self-Efficiacy	Self confidence to maintain healthy behavior when face temptation in trying situations
Process of change	
Experiential	
1. Consciousness Raising [Increasing awareness]	Get the Facts *"I recall information people had given me on how to stop smoking"*
2. Dramatic Relief [Emotional arousal]	Pay Attention to Feelings *"I react emotionally to warnings about smoking cigarettes"*
3. Environmental Reevaluation [Social reappraisal]	Notice Your Effect on Others *"I consider the view that smoking can be harmful to the environment"*
4. Social Liberation [Environmental opportunities]	Notice Public Support *"I find society changing in ways that make it easier for the nonsmoker"*
5. Self Reevaluation [Self reappraisal]	Create a New Self-Image *"My dependency on cigarettes makes me feel disappointed in myself"*
Behavioral	
1. Stimulus Control [Re-engineering]	*"I remove things from my home that remind me of smoking"*
2. Helping Relationship [Supporting]	*"I have someone who listens when I need to talk about my smoking"*
3. Counter Conditioning [Substituting]	*"I find that doing other things with my hands is a good substitute for smoking"*
4. Reinforcement Management [Rewarding]	*"I reward myself when I don't smoke"*
5. Self Liberation [Committing]	*"I make commitments not to smoke"*

Questions: If you are trying to help individuals to <u>stop</u> using recreational opioids, which processes and/or construct(s) would you focus on and why?

HEALTH COMMUNICATION AND SOCIAL MARKETING

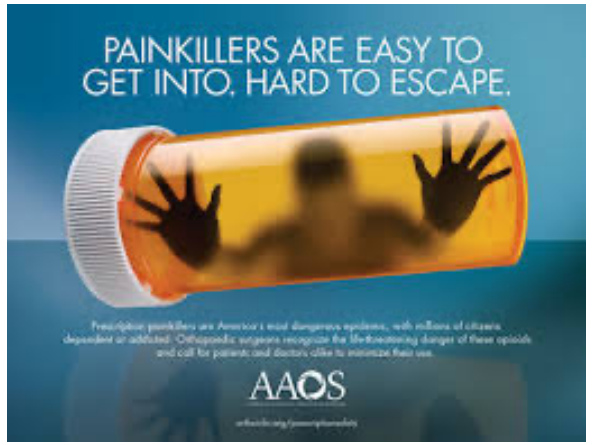
Main focus areas:

- Health literacy
- Messaging – Information
- Persuasion
- Communication channels



Gatekeepers or opinionated leaders whose opinions about a topic are influential, they can mediate content and flow of information from transmission to targeted receiver

OPIOID ABUSE PREVENTION MESSAGING



APPLICATION OF HEALTH COMMUNICATION THEORY

HEALing Communities Study

- Using a series of communication campaigns, the mains aim were to 1) promote the implementation of EBPs*, 2) increase demand for naloxone and medications for opioid use disorder (MOUD), and 3) decrease stigma toward people with opioid use disorder .

- Community engagement plan with 3 phases:
  1. **Prepare:** Identify priority groups and appropriate messaging
  2. **Plan:** Develop plans for distributing campaign materials and messaging
  3. **Implement:** Campaign activities guided by the plan

*Evidence-Based Practices

HEALING COMMUNITIES STUDY CONT'D

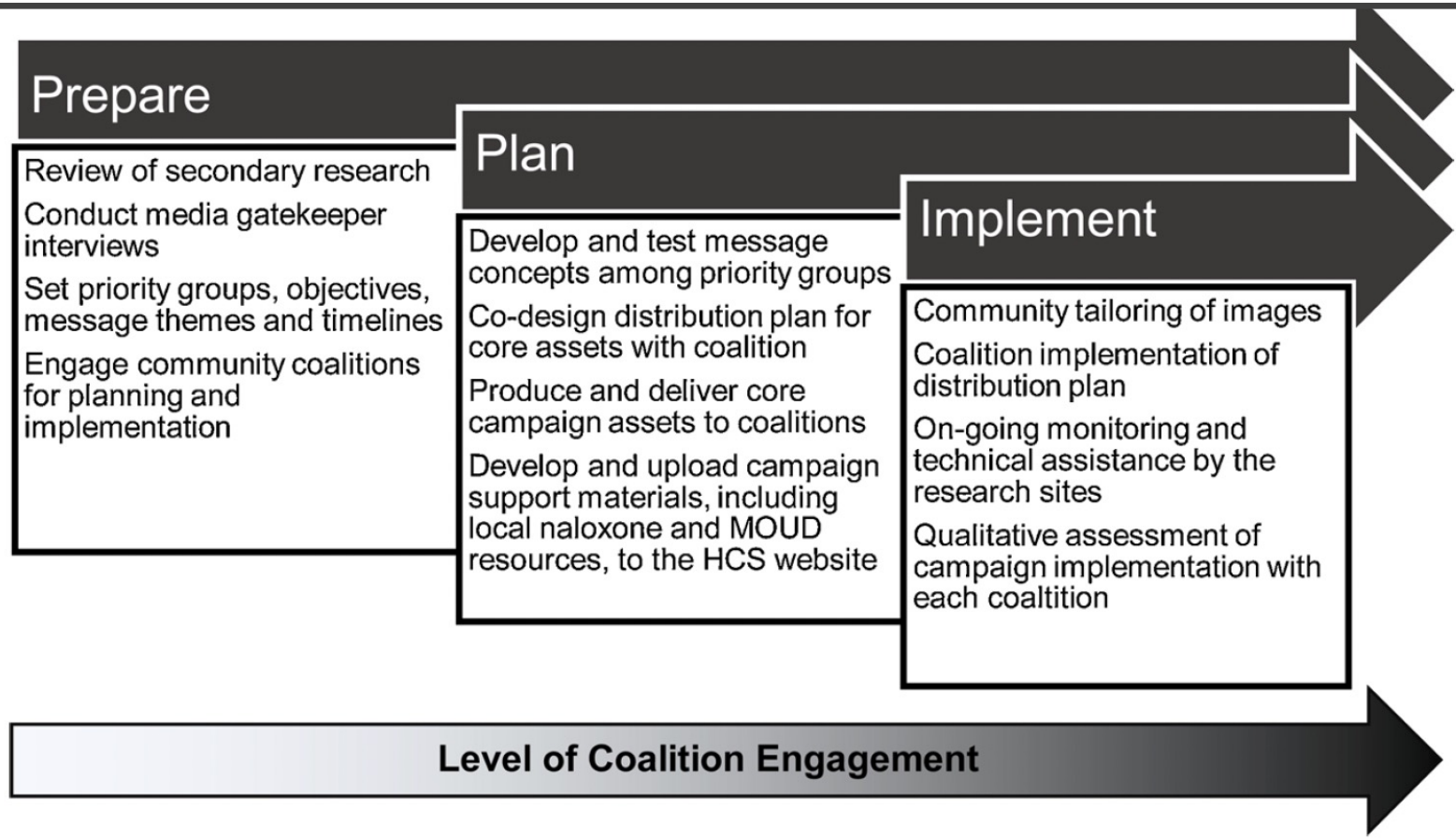


Fig. 1. Conceptual Model and Level of Coalition Engagement for the Design and Implementation of CTH Communication Campaigns.

Note: The first three Communities that Heal (CTH) campaigns had three priority audiences: healthcare providers, people with lived experience, and community leaders.

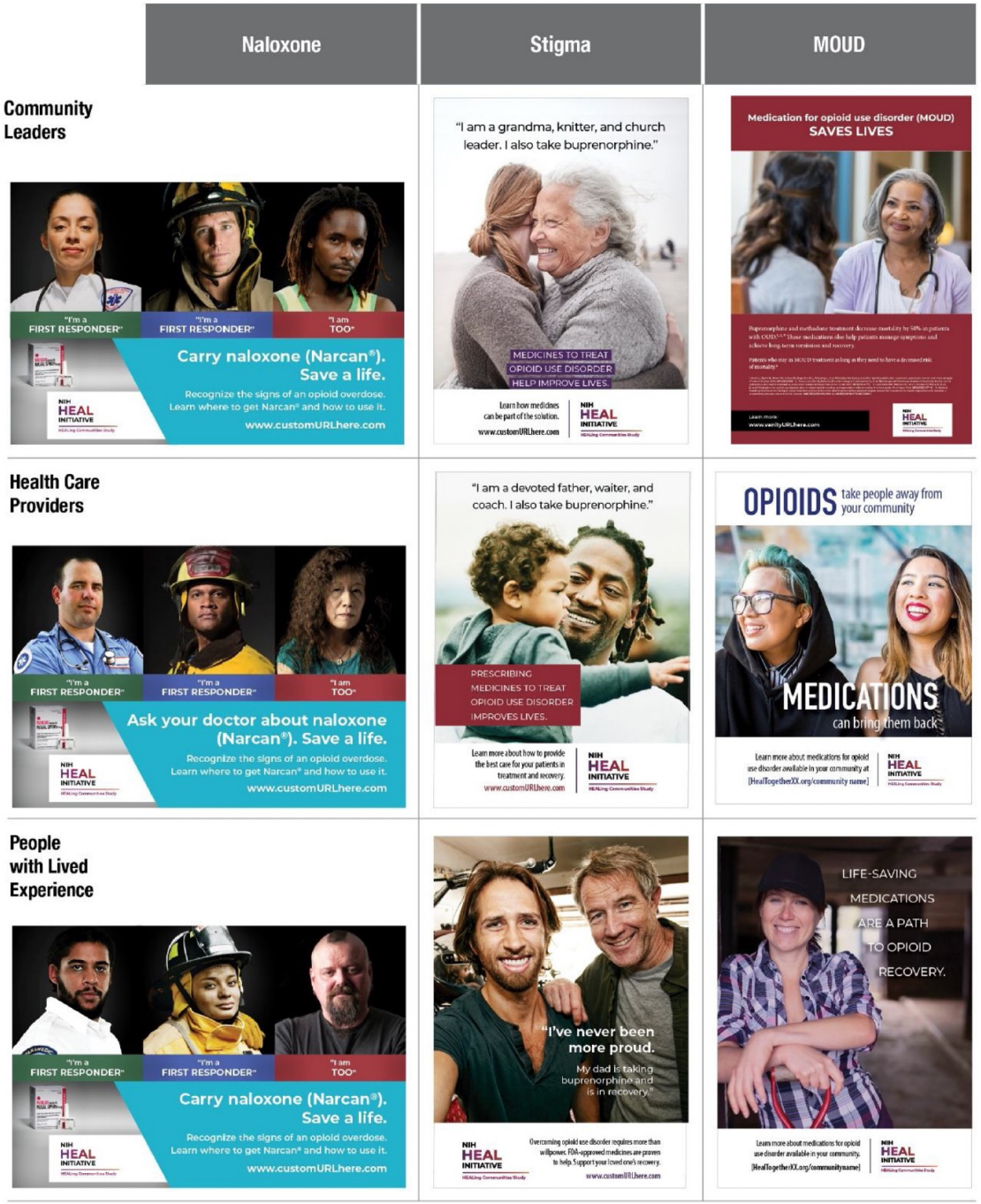
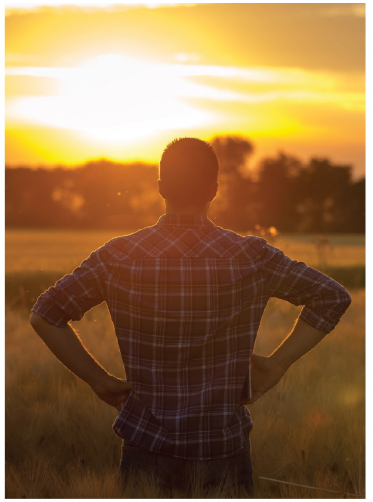


Fig. 2. Examples of Core Print Materials Developed for Each of Three Priority Groups in the CTH Naloxone, Stigma and MOUD Campaigns.

THRIVE FOR MONTANA INTERVENTION STUDY: PROMOTIONAL MATERIALS

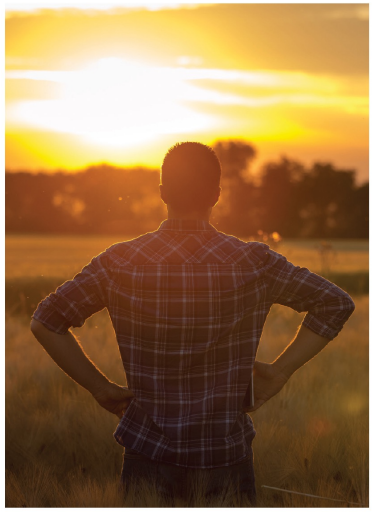
Stressed? Anxious?
Feeling Down?

Get back to what matters most.



A stronger mind,
10 minutes at a time.

Get back to what matters most.



Free and confidential web-based cognitive behavior therapy program

for your patients.

KEY TAKE-AWAYS

- Health behavior theories have practical use in practice, particularly with:
  - Program / campaign development
  - Identifying priority (target) populations
  - Dissemination and implementation strategies
  - Evaluation methods (including measurement) to identify:
    - Processes that work (or do not work)
    - Outcomes that the program or campaign are theorized to impact.
    - Unintended consequences of the program / campaign
- Ideally, every program and campaign should have a theoretical/conceptual framework for the reasons listed above. These, in turn, should aid to maximize the efficacy of interventions.

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DISCUSSION AND QUESTIONS

Thank You!

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