



What is Translational Research?

- **Type I to Type II**
- Prevention of one behavior to another (e.g. drug use to obesity prevention)





Translating Drug Use Prevention to Obesity Prevention

What do these health risk factors have in common?

Common Risk Factors

- Low impulse control
- Stress/Arousal
- Sensation Seeking
- Emotional Dysregulation
- Poor executive cognitive function
- Peer and parent modeling influences





Neurocognitive Systems Related to Affective Decision-Making

- Two structures of the brain related to selfregulation of emotion and behavior.
- Limbic System
- Frontal Cortex
- These systems related to school readiness, substance use, risk for obesity, and behavior problems.



PATHWAYS

 A randomized school-based prevention trial to translate two evidence-based drug and violence prevention programs (PATHS, STAR) to obesity prevention.

		0745			
PATHS		decisio	k on-	for contr	ol of
emotional	+ r	naking	and =	impuls	ive
regulation		paren	it 👘	eating a	and
		suppo	rt	drug u	se
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PATHS & STAR Translated into Pathways: Objectives

- Provide youth with strategies to self-control affect and behavior through self-regulation
- Provide youth with the knowledge of an affective vocabulary and skills to use emotion words.
- Promote effective problem solving skills necessary in order to make healthy decisions.





IVIE	asurement D	esign	IS	
Program	Control	Grade 4	Grade 5	Grade 6
n = 12 schools	n = 12 schools			
n = 1700 4 th grade students	n = 1700 4 th s grade students	охо	хо	хо
n = 1700 Parents	n = 1700 Parents	0	хо	
N = 3400 4 th grad 120 teachers	ders (77% Hispanic),	N = 3400	Parent	s, N =

PATHWAYS Research and Measurement Designs

PATHWAYS PROGRAM

- 15 4th grade sessions + 7 parent-child homework activities on emotional regulation, impulse control
- 10 5th grade sessions + 5 parent-child homework activities on impulse control, executive function, behavior
- 5 6th grade sessions + 3 parent-child homework activities on impulse control, executive function, behavior

PATHWAYS PILOT PRE-POST

Pilot (N = 54)			
	Pre-	Post-	Mean Diff
Variable	test	Test	(SE)
Attitudes toward appetitive regulation	2.96	3.29	.33(.11)**
Dysregulated eating	3.39	3.48	.09(.09)
8-item overall scale	3.09	3.36	.27(.06)***
Pilot 2 (N = 73)			
Attitudes toward appetitive self-regulation	3.94	4.22	.28(.08)***
Appetitive decision-making	3.76	3.92	.16(.10)+
Appetitive behavior	3.43	3.44	.01(.04)
Decreased television viewing	3.99	4.19	.20(.13)+
Physical activity	5.22	5.44	.22(.18)
15-item overall scale	3.94	4.22	.28(.07)***
*= <.10, ** = <.01, *** = <.001			
15-item overall scale += <.10, ** = <.01, *** = <.001	3.94	4.22	.28(.07)**



Curriculum Construction

Sussman (1991) 4-Step development process

Step 1: Extend Theoretical Knowledge Base マタ Step 2: Pool together curriculum activities २ ह Step 3: Test individual activities २*५* Step 4: Build and test full curriculum

Step 1: Extend Theoretical Knowledge Base

- Develop theoretical model
 - Primarily done by the Investigators
 - Need to conceptualize each variable and understand their role in relation to other variables (as the Investigators see it and as you see it)
 - Define and operationalize
- Confirm theoretical model
 - (assessment)
 - Literature and empirical evidence to support our thinking
 Look for gaps

Step 1 Tasks

- Define and Understand
 - Translation
 - Obesity
 - Health Behavior/ Prevention
 - Impulse Control/ Emotional Regulation
 - Tobacco, Alcohol, and other Drugs
 - Curriculum
 - Philosophies, Theories, How they operationalized
- Operationalize
 - What do we want to see happen?
 - How do we know that we were successful?
 - Knowledge ≠ Behavior Change

Step 1: Example CONTROL SIGNALS POSTER Original Paths Stop Action Slow down Stop Action Slow down Stop Action Slow down Slow down Stop Action Slow down Slow down

Step 2: Pool together curriculum activities

- Collect previous well-researched activities
 - PATHs
 - STAR
 - Other programs
- Develop new activities for testing
 - Fresh Approaches
 - · Consider how to impact behavior



Step 3: Test individual

Activities
 Perceived impact studies

- theme, focus group
- Immediate impact studies
- Component testsWhich activity stays and which goes?
- Superior to other alternatives
- Manipulate proposed mechanisms of change
 - Knowledge
 Attitude
- Intent
- Do not impact negatively
- Are received well by students

Versions

- Sugar Version
 - Junk Food
 - Hidden Sugars
- Fiber Version
 - 5-a-day
 - Satiety
- Physical Activity Version
- Be Active
- Be less Sedentary
- Standard Version
 - Combination of the variations



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Step 4: Build and test full curriculum

- Combine Activities
- Combine Lessons
- Workability/ Feasibility
- Pilot Studies

Programming Logistic Choices

- Standardizing Lesson Delivery
 - PATHs—Flexible delivery
 - PATHWAYS—30-45 minute delivery blocks
- Classroom Activity Level
 - PATHs—Lots of discussion & worksheets
 - PATHWAYS—More interactive games
- Lesson Content
 - Variations
 - Affective States

Combine activities and sessions

- PATHs base sessions
 - Control Signal Poster
 - Steps to Calm Down
 - Feeling Faces
- How would you feel
 Integrated Sessions
- What's healthy to you?
- Decision Making toward health goals

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	Session.	Title	Construct		Target			Variar	ıt	ſ
	Activity						A	pplicat	ion	
				Affect	Cognit	Behavi	PA	Sug	Fiber	l
					ion	or		ar		
	1.1	Don't Blink	Attention	Х	Х	X				
	1.2	Introduction to	Affect	Х	Х	Х				
		Pathways	Understanding							
	1.3	Introduction to Feeling	Affect	Х	Х					
		Faces	Understanding							
	6.4	Sugar bad or good?/Power	Knowledge		x		x	x	x	
		Foods/Energy								
	6.5	Hiding Sugar/ Finding	Knowledge		х	Х	х	Х	Х	
		F&V/Finding Energy								ľ
	13.1	Chosen Path Review	Problem Solving		Х	Х		х	Х	
			Skills/ Planning							
	13.2	Exercise your brain	Self-Control	х	х	х				ľ
Τ								/	/	
)	13.3	Asking for Help	Problem Solving Skills		X	X	X		×/	
	13.ohw	Food Finds/ Fun Finds	Awareness and attention		x	x	X	×	×	
	13.oact	Food Choices	Problem Solving Skills		x	×		×	×	

Operationalizing Example

- Construct: Attention
- Target: Affect, Cognition, & Behavior
- How would you teach a 4th grader that it is important to pay attention?

YELLOW

Operationalizing Example 2

- Construct: Awareness and Attention
- Target: Cognition & Behavior
- Focus: Sugar
- How would you teach a 4th grader that they should pay attention to how much sugar they consume—without teaching that sugar= "bad"?



Structure of Curriculum







Main Trial

- Empirically tested
 - Reasonable time length
 - Relatively high in interest
 - Relatively high in helpfulness
 - Sequenced to build knowledge and lead to desired attitude change
 - Whole curriculum found to alter theoretical mechanisms of change
- Is it going to do what we want it to do?
- Will the students and teachers find it valuable and will they enjoy it?

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