Helping Young Smokers Quit

Identifying Best Practices for Tobacco Cessation

Early Abstinence Among a Cohort of Youth Smokers in Community-Based Smoking Cessation Programs

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TODAY'S GOALS

- Brief Review: What is HYSQ?

- Characterize treatment seekers

- Describe analyses of factors associated with early abstinence

- Discuss implications for design of cessation programs

Helping Young Smokers Quit:
Identifying Best Practices for Tobacco Cessation

- Multi-year, Three-Phase Initiative

- Funded by Robert Wood Johnson Foundation, National Cancer Institute, Centers for Disease Control and Prevention

- Based at University of Illinois at Chicago

HYSQ Mission and Activities

- Overall Mission:
  - Accelerate knowledge about effective interventions for youth tobacco cessation

- Activities
  - Phase I: National survey of programs
  - **Phase II: Program evaluations**
  - Phase III: Sustainability survey
  - Synthesis of 'best practices' in cessation programming
  - Self-evaluation tool-kit

Phase II Goals

- Evaluate a sample of "real world" youth cessation programs

  - want viable, replicable, and credible programs (potential exemplars)

- Identify characteristics of programs that show promise for improving smoking cessation outcomes among enrolled youth

- Identify resources and barriers to successful youth cessation program implementation

PHASE Ⅱ: Logic Model
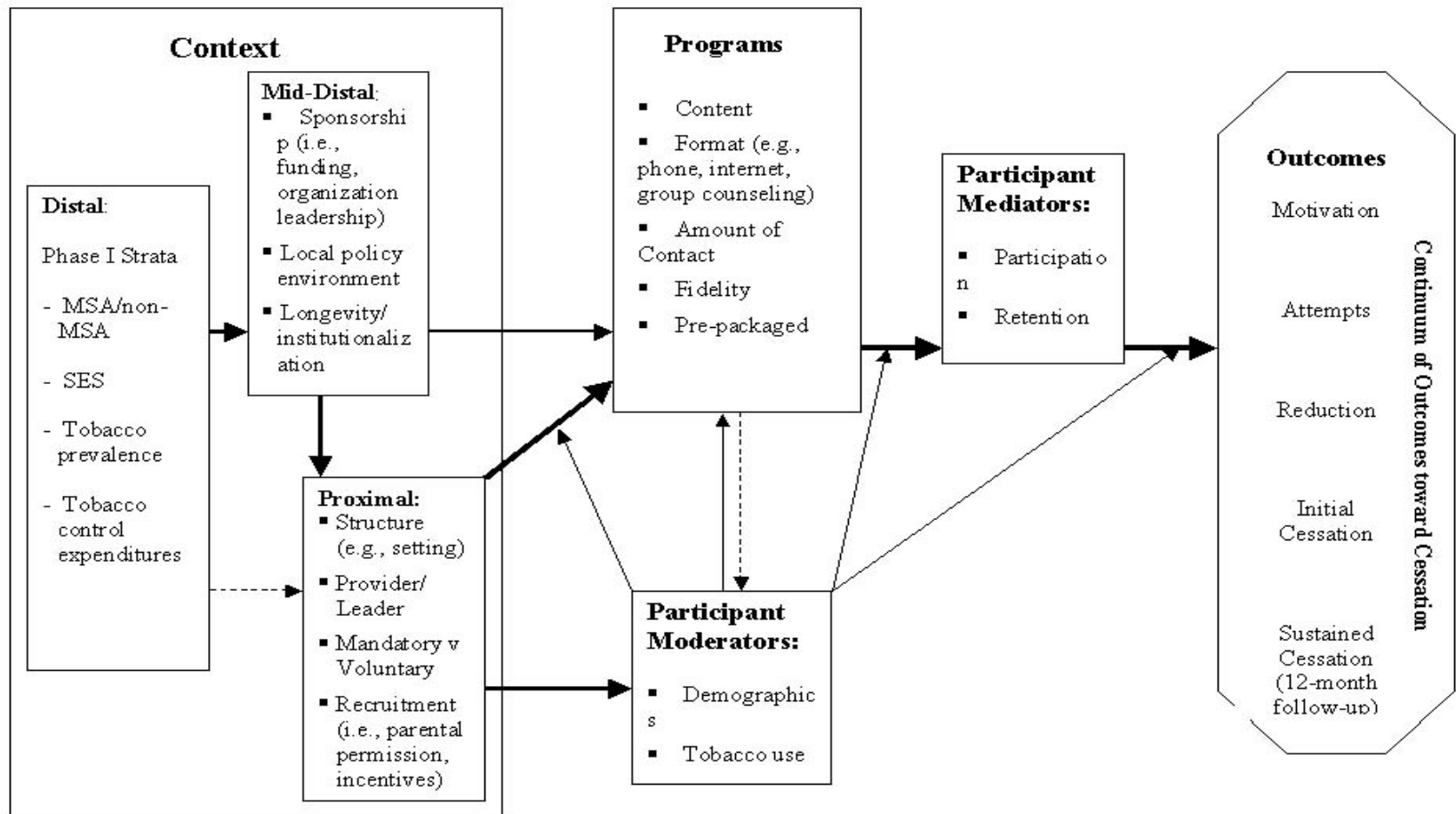
# PHASE II: Data Collection Effort

- Youth participant surveys
  - Baseline (n=878)
  - End of the program (n=801),
  - Follow-ups at 6-months (n= 672) and 12-months (n=601)

- Program leader interviews (n=80)

- Organization leader (n=64)

- Community leaders (n=94)
  - School Board
  - Health Department
  - Juvenile justice

- Local ordinances from archival research

Constructs Measured on Youth Surveys

1. Demographics
2. Smoking History
3. Attitudes about Smoking
4. Motivation/Efficacy
5. Quitting History
6. Social Context/Smoking Environment
7. Social Support for Quitting
8. Grades/Academic Performance
9. Activities
10. Health and Fitness
11. Psychological Factors

PHASE II:
Who are the Treatment Seekers?

HYSQ: 52% female (NYSCS: 46% female)
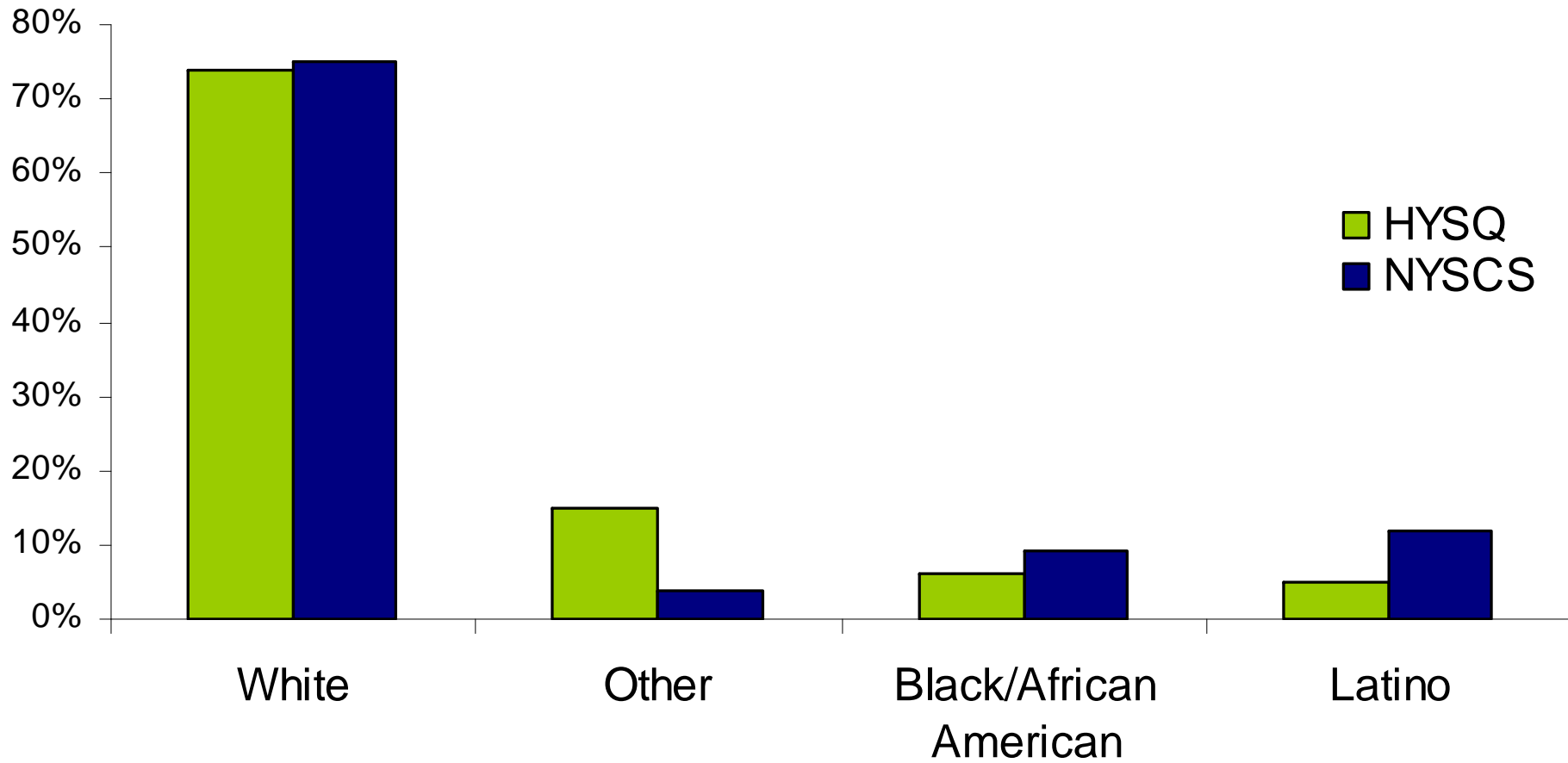
PHASE II: School and Risky Behaviors

School-related Variables

- 94% currently enrolled in school

- 68% average or below average grades

- 68% ever suspended or expelled from school

- 28% expect to attend 4-year college

Risky Behaviors

- 73% live with another smoker

- 57% binge drank in the past month

- 66% out $\geq$ 3 nights/week

PHASE II: Smoking and Quitting Behaviors

Smoking Behaviors

- Average age of 1st cigarette: 12 years old

- 55% smoke daily

- 78% smoke first cigarette within hour of waking up

- Average 6 cigs/day, Average 5 days/week

Quitting Behaviors

- 56% want to quit for good, but not yet quit

- 20% say they definitely will not smoke in 5 yrs

- 74% are in the program voluntarily

- 44% plan to quit in next 30 days

- 77% plan to quit in next 6 months

Modeling Challenges

- LOTS of data
  - 231 variables measuring 11 constructs from baseline surveys

- Missing Data (among 53 variables on short list)
  - Item non-response low (< 5%)
  - Potentially 43% missing cases (487 respondents) if cases are deleted for any missing data

Solutions/Approaches to Challenges

- Impute missing data
  - Used SAS IVE Ware
  - Imputed 5 datasets
  - Used Mean of 5 for imputed values of variable/respondent

- Backward Stepwise Selection to Build Models
  - Started with 53 variables, selected from
    - theoretical framework/logic model, and
    - block-wise variable comparisons and bi-variate associations

Predictors of Early Abstinence

(n=833) controlling for age, race, gender

Baseline Predictor	Measure	OR
Amount smoked (ref = <1-5 cig/day)	6-10 >10	0.50 0.06*
Smoke by myself (ref = never)	Often	0.29*
Confidence (ref = high)		2.13
Stages of Change (ref = precontemplation)	Preparation Action	2.73 10.82
Think public places should be smoke free (ref = definitely not)	Probably yes Probably not	3.61 2.60
Lives with Smoker		0.55
Activities (ref = sports only)	Art/math only Mixture	3.18 2.80
Percent of sessions attended	(0-100)	2.61

Predictors of Daily Smoking at End of Program (n=642) controlling for age, race, gender

Baseline Predictor	Measure	OR
Nicotine Dependency	Continuous (higher=dependent)	1.5
Time to first cigarette (ref = <15 mins)	30+ mins	0.36*
How often smoke	(5-15)	1.27*
Daily smoker at baseline		6.40*
Use promotional items		1.65*
Smoking Expectancy Scale	Higher value=agree	0.67
Stages of Change (ref = precontemplation)	Contemplation Preparation	0.43* 0.52
Stick to program	Definitely yes	0.66
School Performance (ref = average)	Below average Much better than average	1.75 3.40

Predictors of Motivation at End of Program (n=766) controlling for age, race, gender

Baseline Predictor	Measure	OR
Time to first cigarette (ref = <15 mins)	15-30 mins	0.50
Smoking Expectancy Scale	Higher value=agree	0.66
Motivation	High vs. low	5.98*
Stick to program	Definitely yes	1.81
Girl/boy friend smokes and/or is supportive (ref=don't have g-b friend)	Non-smoker and very supportive	2.52*
Suspended or expelled in past 6 months		0.67
Ever used behavioral therapy for quitting		1.45
7-day abstinent at EOP		6.30*
Interaction of 7-day EOP abst and BL Motivation		NS

Predictors of Confidence at End of Program (n=763) controlling for age, race, gender

Baseline Predictor	Measure	OR
Nicotine Dependency	Continuous (higher=dependent)	0.71
Smoke by myself (ref = never)	Sometimes	0.37
	Often	0.44
Confidence	High vs. Low	2.64*
Stick to program	Definitely yes	1.66
Girl/boy friend smokes and/or is supportive (ref=don't have g-b friend)	Non-smoker/very supportive	2.24*
	Smoker/very supportive	1.79
Motivation	High vs. Low	1.92
7-day abstinent at EOP		4.90*
Interaction of 7-day EOP abst and BL Confidence		0.36

Construct	*Baseline Predictor*	Early Abstinence	EOP Daily Smoking	Motivation	Confidence
Smoking Hist	Amount Smoked	X			
	Daily Smoking		X		
	How often Smoke		X		
	Nicotine Dep		X		X
	Time to 1st Cig		X	X	
	Stages of Change	X	X		X
	Confidence	X			X
	Motivation			X	
Attitudes about smok.	Smoking expect.		X	X	
	Public places SF	X			
Social Context	Smoke by self	X			X
	Lives with smoker	X			
Social Sup.	G/B friend support			X	X
	Program Attend.	X			
	Stick to program		X	X	X
Acad. Perf.	School performance		X		
Activities	Extracurriculars	X			
	Used promo items		X		
Quit History	Used beh'l tx			X	

Conclusions/Limitations

- Our results are consistent with other research on predictors of youth cessation
  - Nicotine Dependence and other measures of addiction are important predictors of quitting behavior
- Commitment to program seems important
- This is a first stage; multi-level models that incorporate other data may show different results

Conclusions/Limitations

- Our findings represent the most comprehensive exploration of factors associated with youth quitting to date