

Smoke-Free Homes & Smoking Cessation

TUS-CPS
2002-2003 overlap sample

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Outline

- Importance of TUS-CPS overlap sample
- Background on recent US cessation trends
- Population evidence on Smoke-Free Homes and smoking cessation
 - 2003 TUS cross-sectional results
 - 2002-2003 TUS longitudinal results

Recent literature review

Mills, Messer, Gilpin, Pierce *AJPH in press*

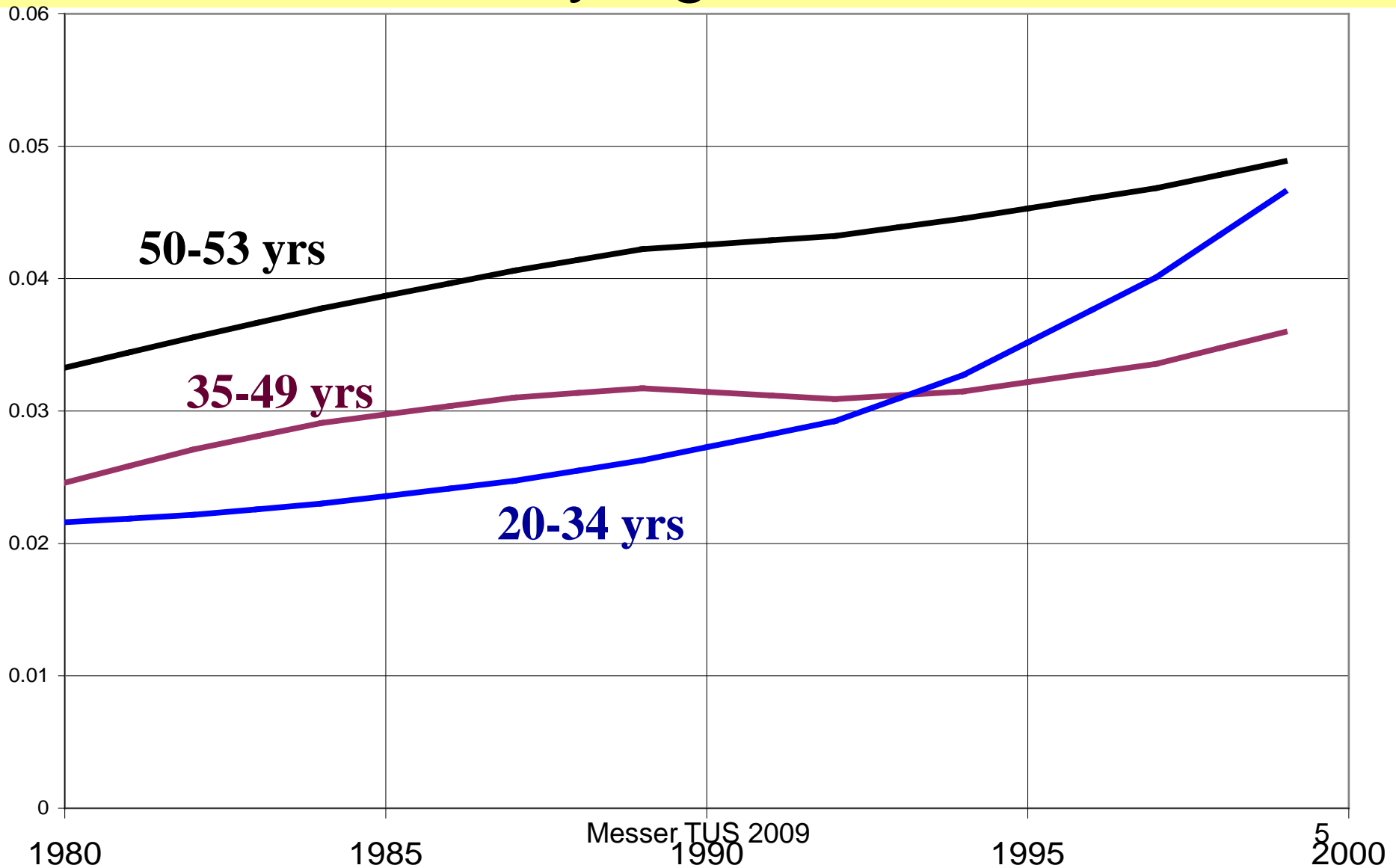
What is the population-level evidence on the role of SFH's?

- 16 cross-sectional studies
- Only a few large national surveys with detailed longitudinal data on tobacco use
 - Tobacco Use Supplement to the CPS
 - National Population Health Surveys of Canada
 - ITC four country survey (US, England, Canada, Australia)

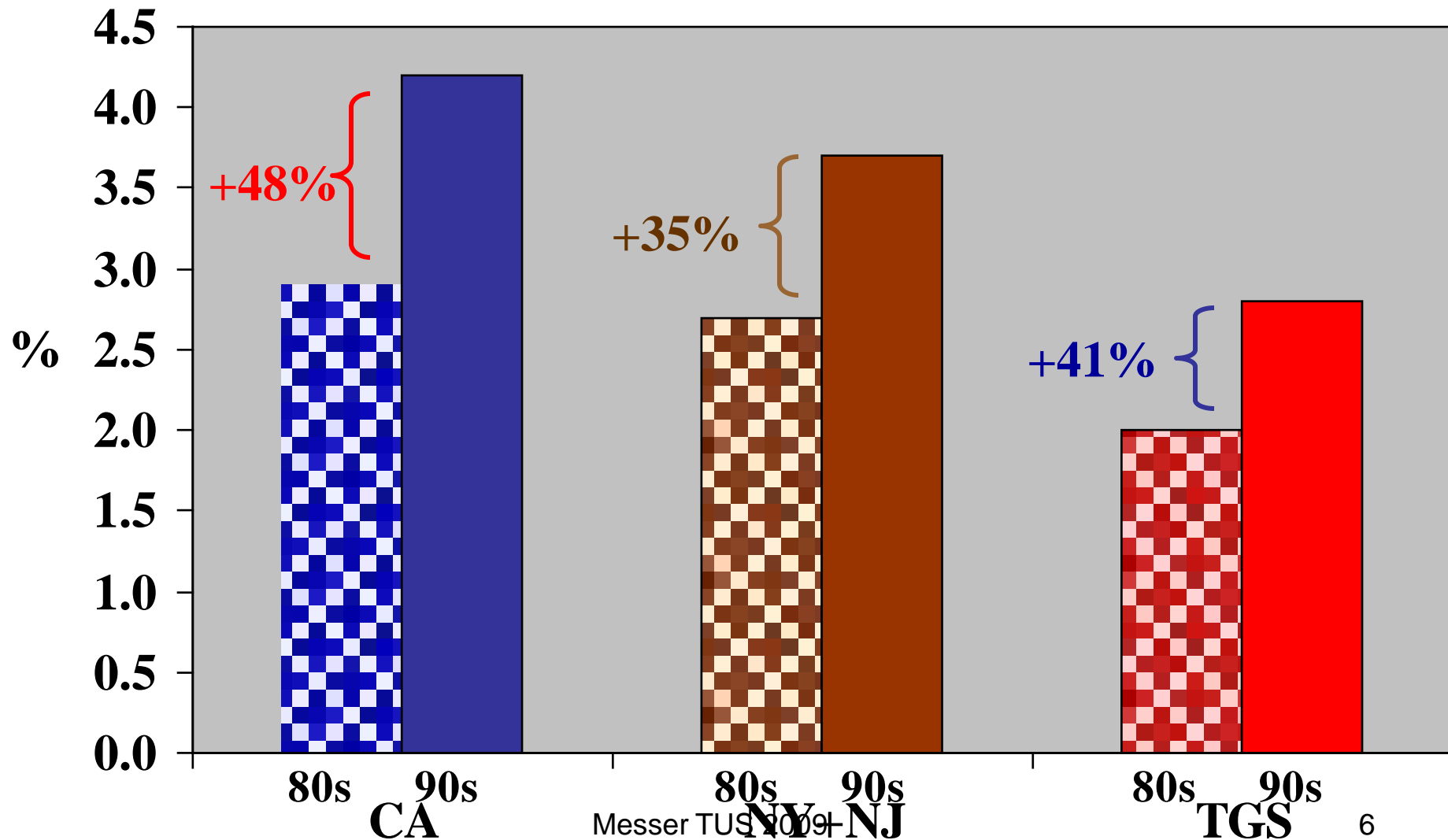
□ Background

- US successful cessation rates increased during the 80's and 90's
 - Especially in California
 - Especially among young adult smokers
- Evidence for tobacco control programs as an effective means of increasing population cessation rates
 - Social Norms
 - Smoke-Free Homes
 - Reduced consumption levels

Incidence of Successful Quitting (1+yr) in United States by Age: CPS, 1980-2000



Average Annual Incidence of Successful Quitting (1+yr): 20-34 yrs



Research Questions

- Did these trends continue into 2000's?
- Are young smokers now quitting at higher rates than older smokers?
- Is the population 'softening', not 'hardening'?
- What is are the roles of social norms, pharmaceutical assistance?

Cross sectional evidence 2003 TUS-CPS

We compared US cessation rates by age.

- “Have you smoked at least 100 cigarettes in your lifetime?”
- “Do you now smoke cigarettes every day, some days, or not at all?”
- “How long has it been since you completely stopped smoking cigarettes?”

Study population

- Recent smokers
 - 100+ cigs lifetime
 - Smoked within one year
- Dependent smokers
 - had smoked daily for at least 6 months
- Adults ages 18 - 64
- N =31,625

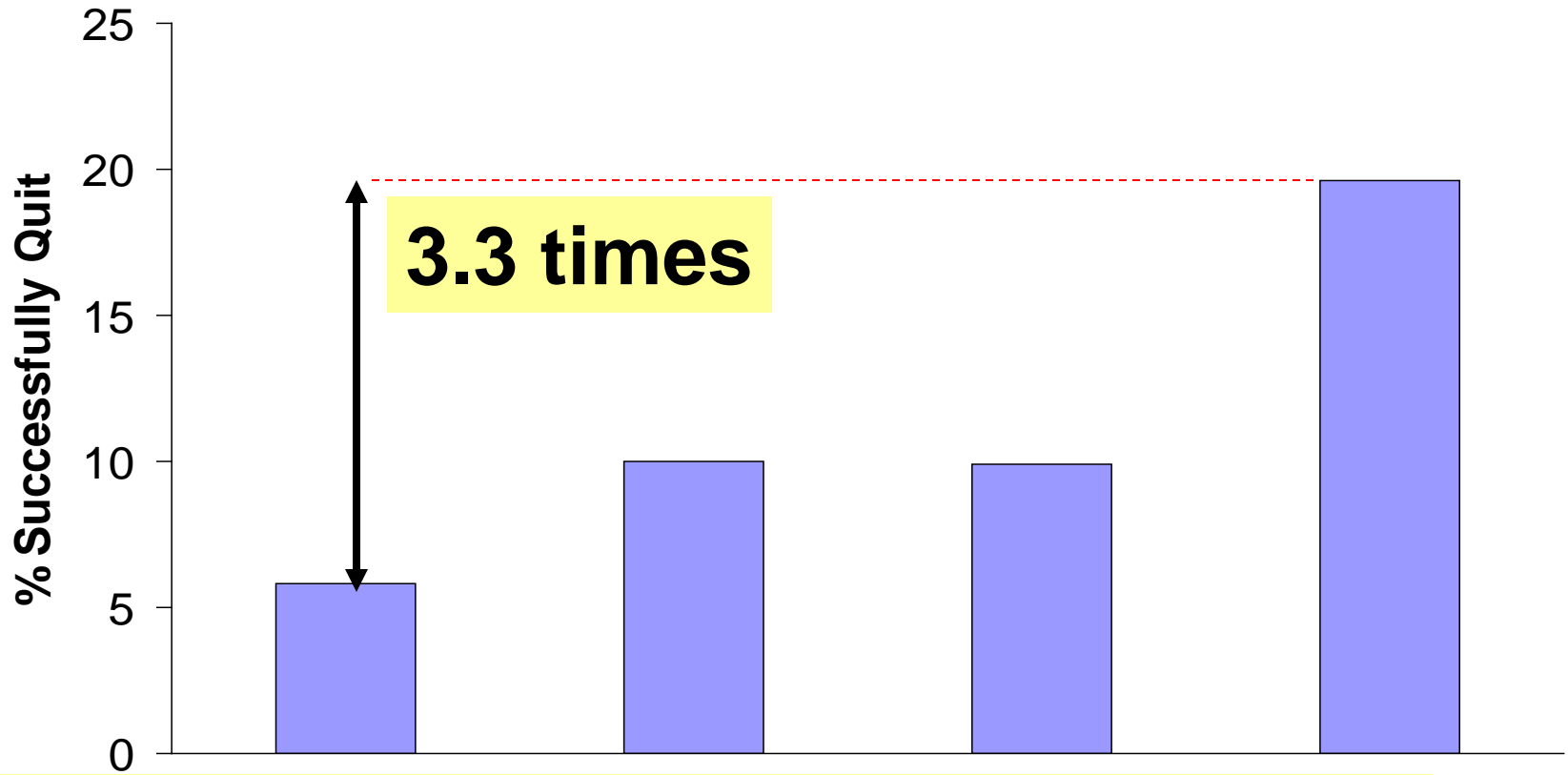
MEASURES

- Cessation: in the past 12 months
 - Have you ‘Seriously tried to quit’
 - Quit for 1+ day
 - Quit for at least 6 months
- Smoke-Free Home:
 - “No one is allowed to smoke anywhere inside your home”

MEASURES

- Use of pharmaceutical aids on the most recent quit attempt
 - Gum, patch, nasal spray, lozenges, a prescription pill (Zyban, bupropion ..)
- Addiction:
 - # of cigarettes /day (current smokers only)
 - Smoke the 1st cig within 30 min of waking
 - Age first started smoking regularly

Addiction Level Predicts Future Successful Quitting



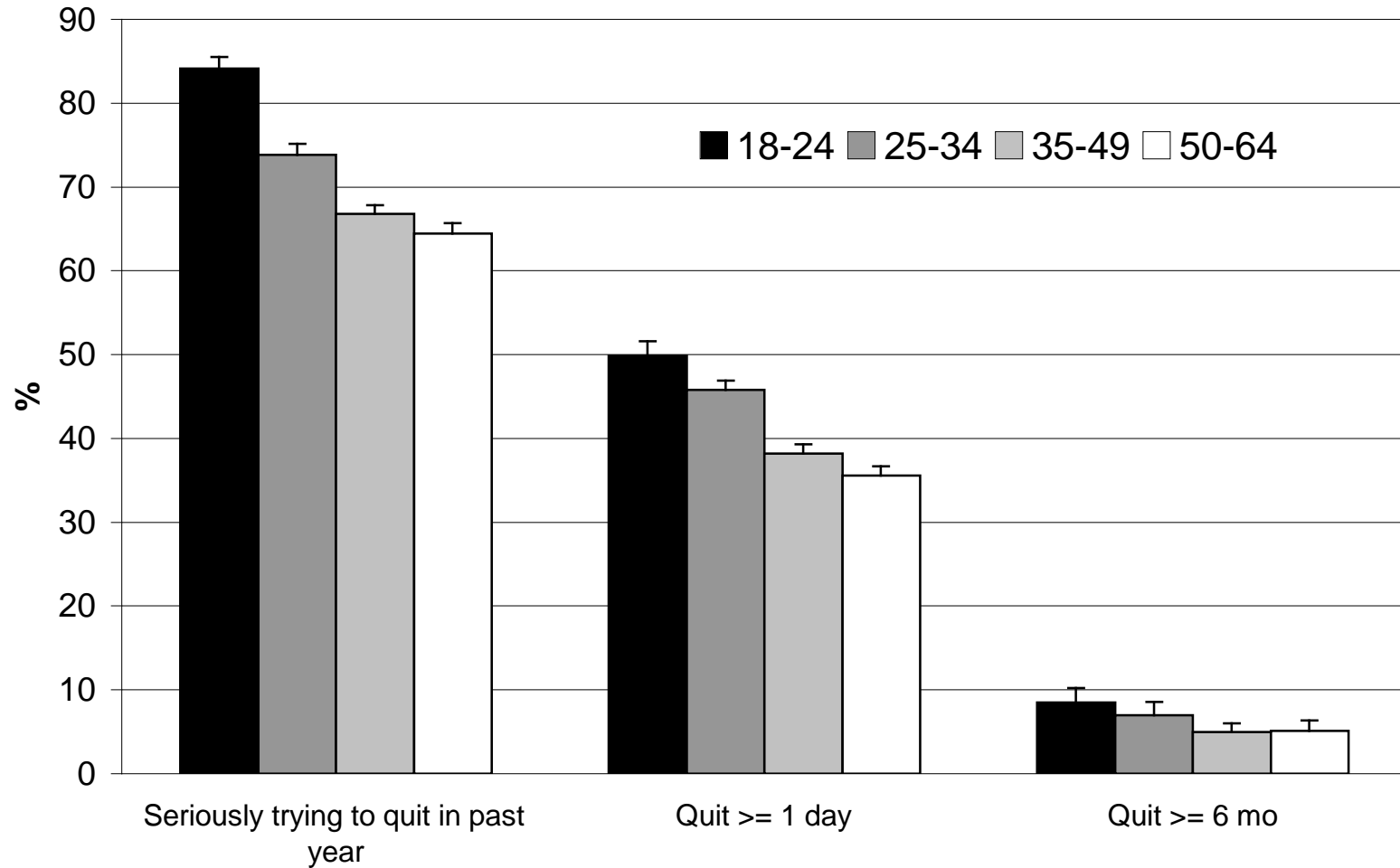
Smoke 15+ cigs:	Yes	No	Yes	No
Smoke 1st 30 min:	Yes	Yes	No	No

MEASURES

- Demographics
 - Age, gender, educational attainment, race/ethnicity
- Household composition
 - Other smoker in the house?
 - Children under age 18 in the house?

RESULTS

Young adults quit MORE!!



Messer TUS 2009

Data Source: 2003 TUS-CPS ¹⁵

WHY????

- Each year, more young adults try

84%, as compared to 64% among ages 50-64

- Each year, if they try, more young adults succeed □ (6+ months at survey)

10%, as compared to 8% among ages 50-64

Ah, of course!

Young adult (daily) smokers (18-24 yrs)
vs older (daily) smokers (50-64 years)

- MORE likely to have a Smoke-Free Home
43% vs 28%
- FEWER cigarettes/day
13.1 cigs/d vs 18.1 cigs/d
- LESS likely to use pharmaceutical aids
9.7% vs 25.5% (??!!)

Multivariate model results

- Demographics, Age of initiation, Time to 1st cig, **Smoke Free Home**, Smoke free workplace, Pharma aid.
- Odds of an 18-24 year old “*trying to quit*” are more than double those of a 35-64 year old.
(OR = **2.6**, 95% CI 2.0-3.1)
- Among those who “tried”, odds of quitting 6+ months (at survey) did not differ by Age or use of Pharma aid.
- Those who reported a Smoke-Free Home MUCH more likely to be quit for 6+ months.
(OR = **4.1**, 95% CI 3.3-5.3.1)

Cross Sectional Conclusion

- Mostly because young people try more.
- If they try, Smoke - Free Homes and lower dependence levels 'explain' their greater success.
- Tobacco control should continue to target social norms.
- And encourage SFH's among smokers.

HOWEVER: Major Confounding

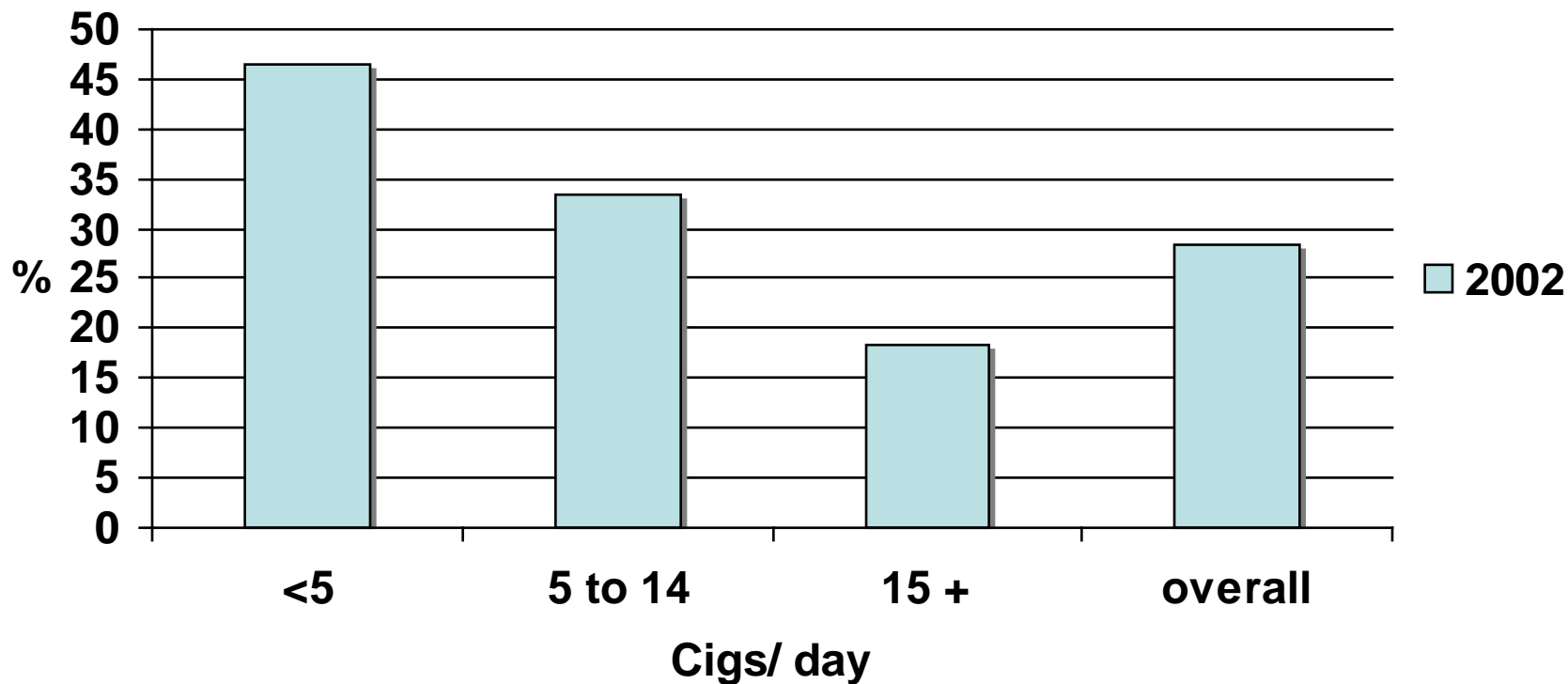
Consumption level

- Smokers who **smoke less** are more likely to report SFH's
- And **also** more likely to quit successfully

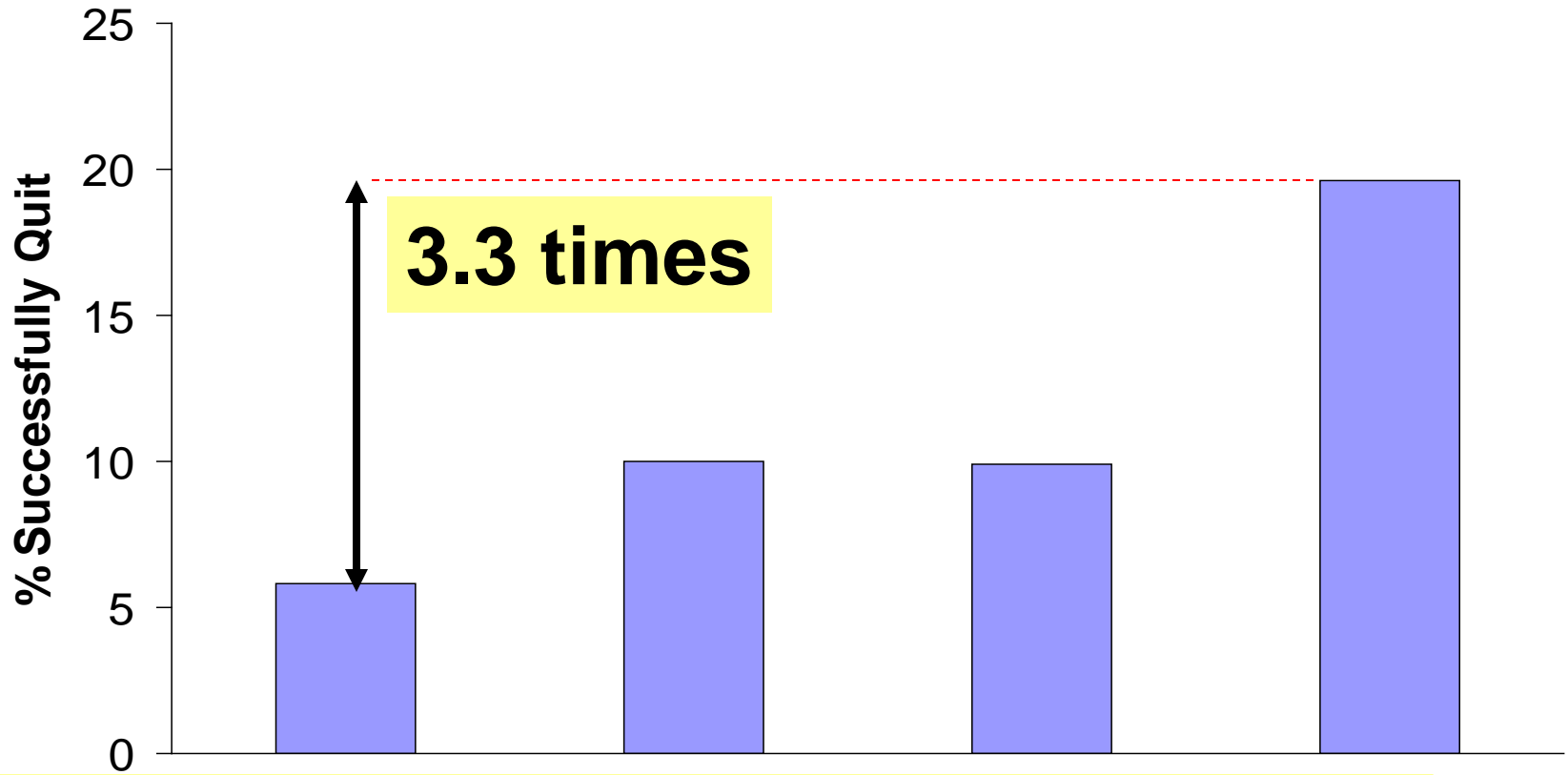
(Can't assess cigs/ day among abstinent smokers.)

Smokers with SFH, 2002 TUS -CPS

Percent of smokers w/ SFH



Addiction Level Predicts Future Successful Quitting



Smoke 15+ cigs:	Yes	No	Yes	No
Smoke 1st 30 min:	Yes	Yes	No	No

Cross-sectional Confounding: temporal

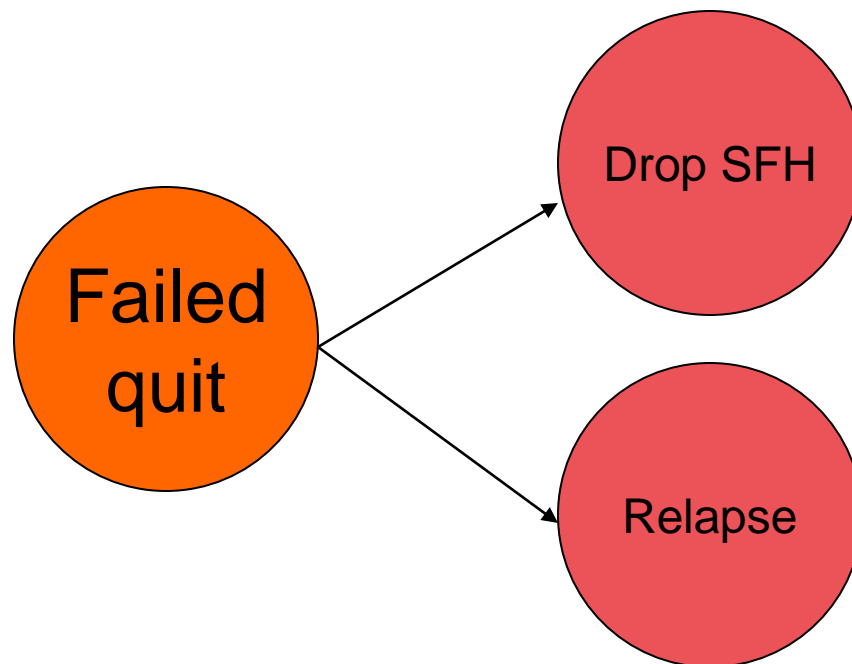
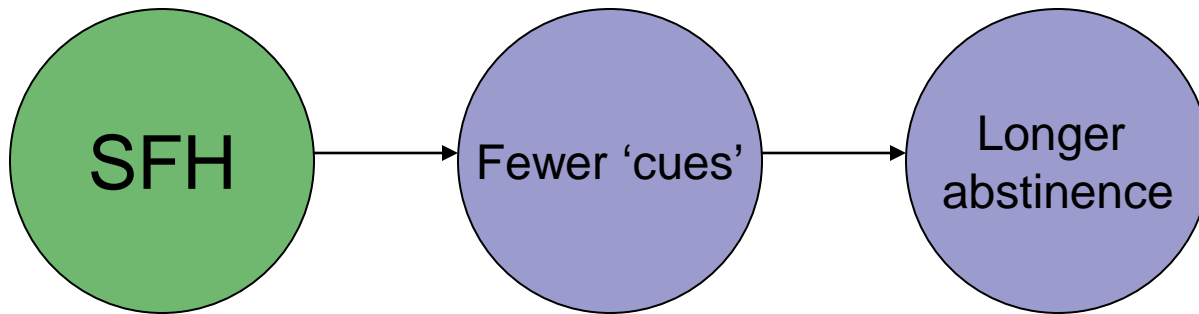
IF

Relapse \Rightarrow Drop SFH

THEN

Association of SFH & quitting is
exaggerated

Causal pathway or not?



Longitudinal data are needed

- At baseline: SFH vs no SFH
- Compare cessation rates at follow-up
 - Among heavier smokers (SFH yes vs no)
 - Among lighter smokers (SFH yes vs no)

The TUS-CPS **overlap** sample

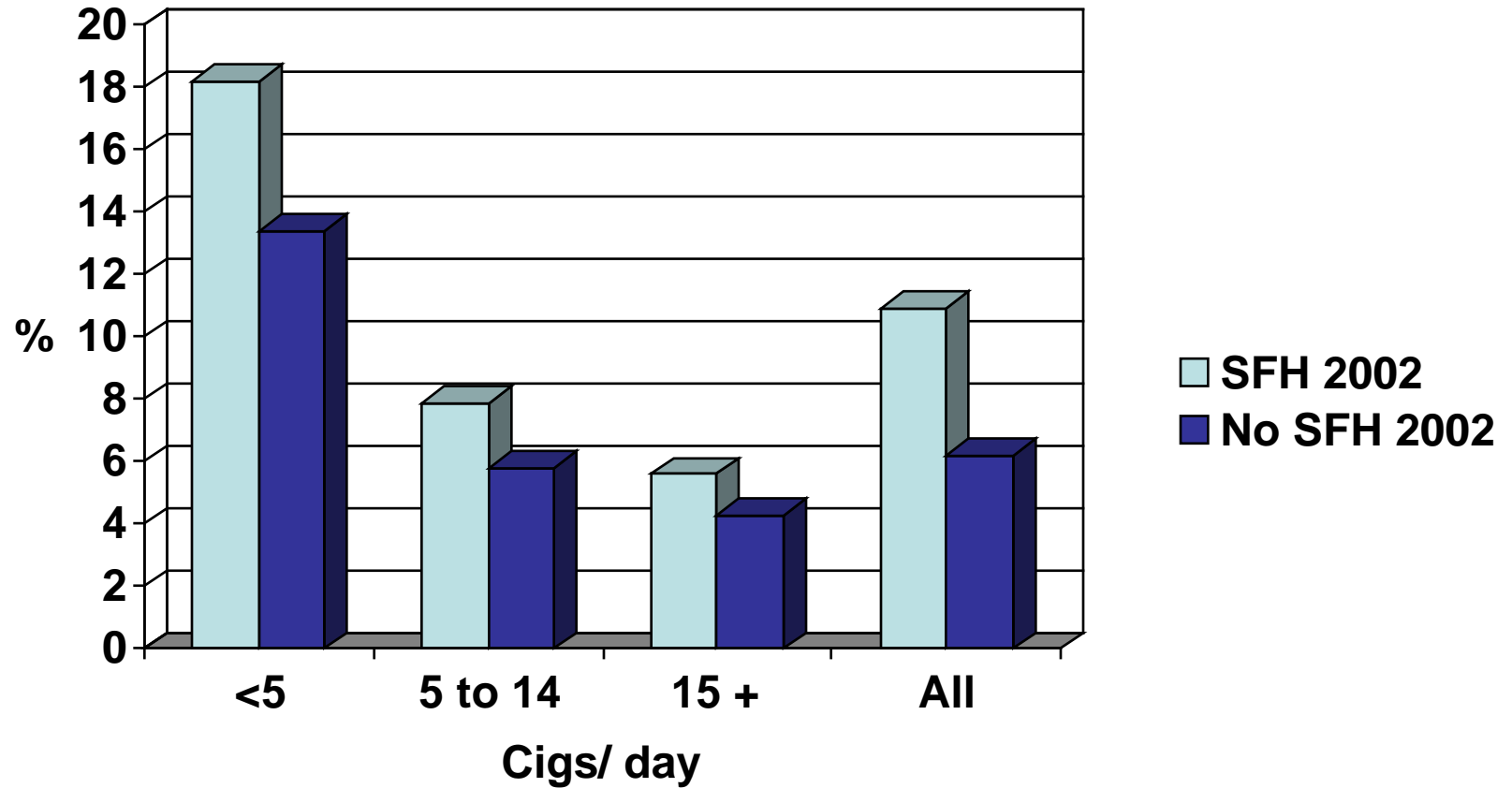
- The CPS labor force survey uses a rotating panel design
 - In sample 4 consecutive months
 - Rested for 8 months
 - In sample 4 consecutive months
- The 2003 TUS February sample overlapped the 2002 TUS February sample
 - 15,846 respondents in both surveys
 - $n = 2,841$ current smokers at baseline

- Compare 90+ day abstinence in 2003
- Stratified by 2002 consumption level

Quit rates x SFH x cigs/day

% 90+ Day Quit 2003		
2002 consumption (cigs /day)	SFH 2002	No SFH 2002
< 5	18.2	13.4
5-14	7.9	5.8
15+	5.6	4.3
Overall	10.9	6.2

Percent 90+ days abstinent, 2003



Multivariate model results

- Baseline variables:
 - Demographics (age, education, gender),
 - Other smoker in house
 - Cigs /day
 - Smoke-Free Home
- Those who reported a Smoke-Free Home in 2002 are more likely to be quit for 90 + days in 2003.

(OR = 1.44, 95% CI 0.93-4.25)

Longitudinal Conclusion

- Smokers living in a smoke-free home are more likely to quit successfully,
 - Even if they are heavier smokers
(Or lighter smokers)
 - Even if they have fewer years of education

Overall Conclusion

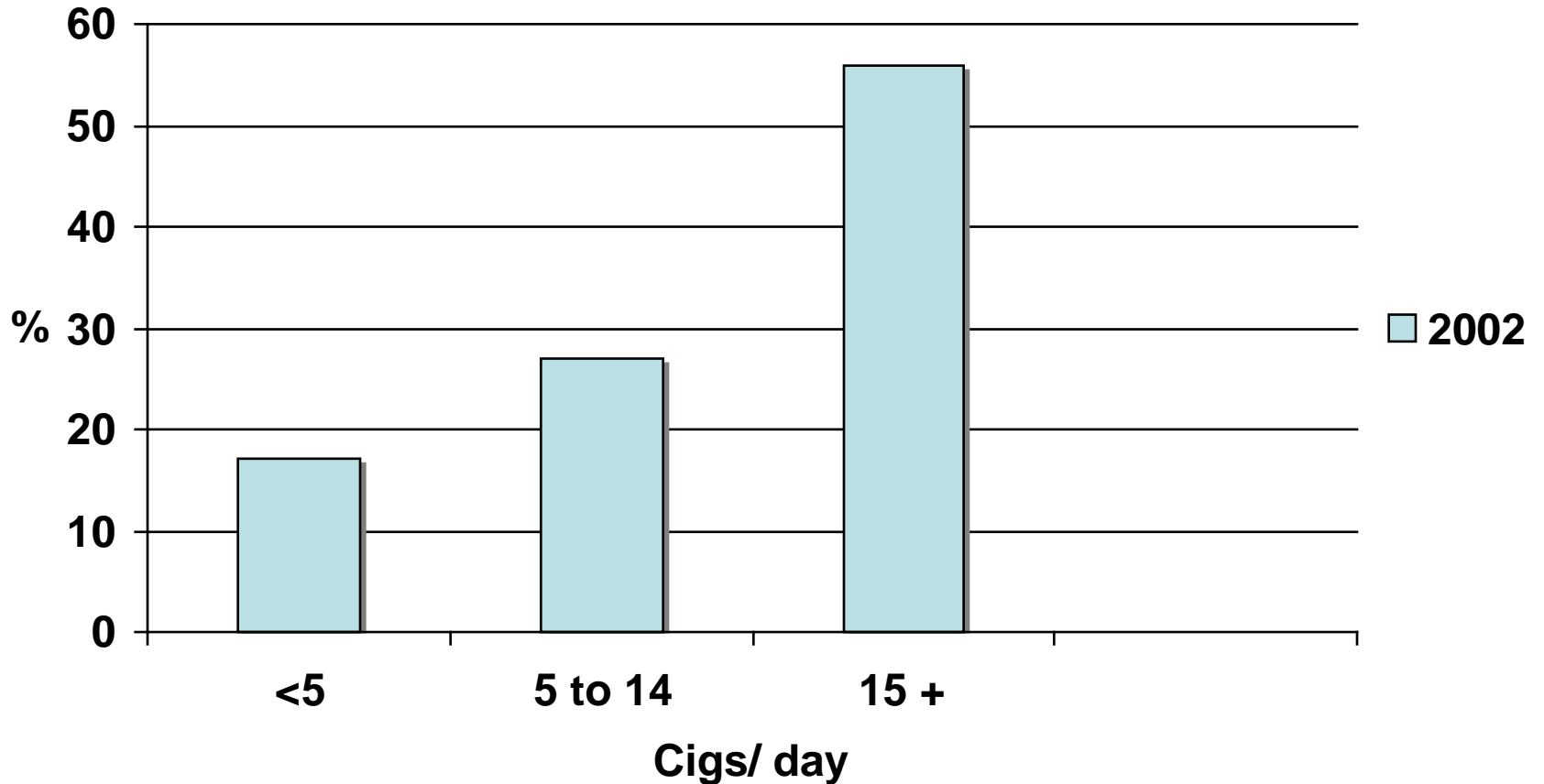
- Young adults quit at higher rates
 - Because they try more (**social norms**)
 - Because they have lighter consumption levels
 - Because they have more SFH's
- Smoke-Free Homes appear to be associated with greater cessation success and should be encouraged at the population level.

References and Collaborators

- Messer, Mills, White, Pierce
AJPM 2008
- Messer, Trinidad, AlDelaimy, Pierce
AJPH 2008
- Mills, Messer, Gilpin, Pierce,
AJPH (in press)
- Pierce, White, Messer
NTR 2009

Thank you.

Distribution of cigs/day, 2002



Among recent dependent smokers

At baseline, fewer cigs/day ⇒ more SFH

Baseline consumption (cigs/day)	SFH 2002 (N, %)	P-value
<5	231 / 487 (46.4)	
5-14	229 / 755 (33.5)	<0.001
15+	271 / 1599 (18.3)	
Overall	748 / 2841 (28.4)	