Tobacco Industry Inoculation and Young Adult Smoking:

A national study
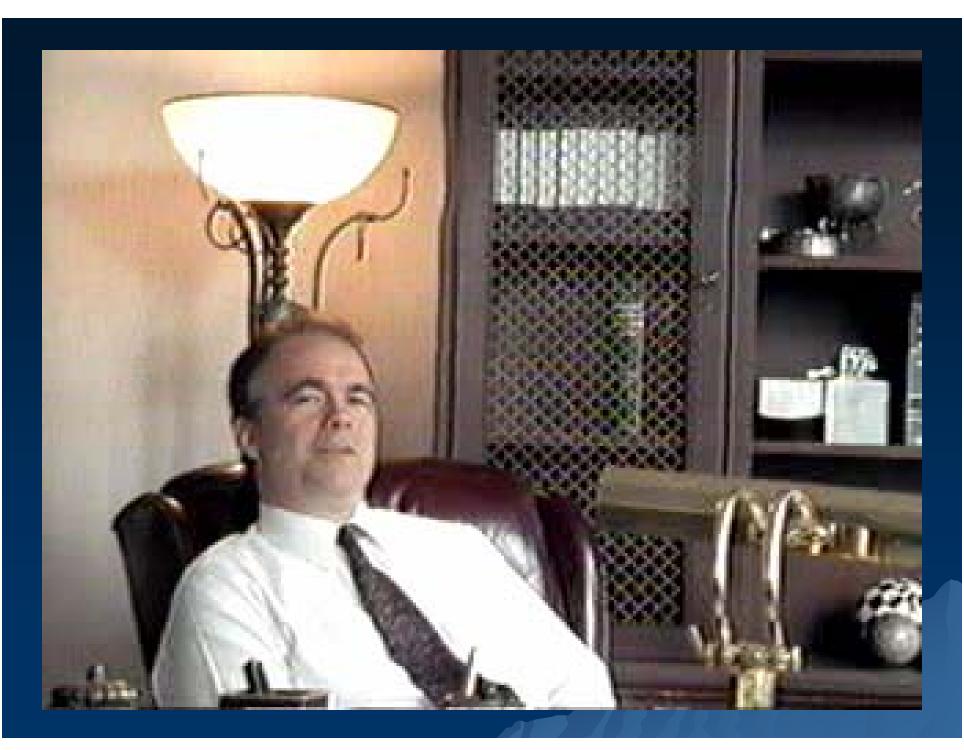
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Young Adult Smoking is Important

- Young adults (age 18-24) have highest smoking prevalence
- Oscillation between regular smoking and early cessation common
- Youngest legal target of tobacco marketing
- Opportunities for intervention

California's Media Campaign Focuses on Tobacco Industry

Industry Denormalization and Smoking

◆ Protects against smoking in teens
  – "truth" campaign
◆ Denormalization is also associated with young adult smoking behavior
◆ In 2002 California Tobacco Survey
  – Supporting Action Against the Tobacco Industry protective against current smoking
  – Also associated with intent to quit

Methods

- ◆ Marketing research and Public Opinion surveys in tobacco industry documents reviewed
- ◆ Measures of anti-industry attitudes
- ◆ Standard measures of smoking behavior
- ◆ National web-based panel survey derived from Random Digit Dialing sample
- ◆ Cross sectional survey 1528 young adults
  - – age 18-25
  - – 79.3% response rate

Measures

- **Supporting Action Against Tobacco Industry** (Cronbach's α=0.85)
  - Taking a stand against smoking is important to me
  - I want to be involved in efforts to get rid of cigarette smoking
  - I would like to see cigarette companies go out of business

- **Secondhand smoke dangerous** (Cronbach's α=0.8)
  - I believe that SHS is dangerous to a nonsmoker's health
  - Inhaling smoke from someone else's cigarette harms the health of babies and children

Measures

- **Smoking "useful"** (Cronbach's α=0.83)
  - Smoking a cigarette can make you feel more comfortable around other people
  - Smoking a cigarette around others gives you something to do when others are talking
  - Smoking helps to control your stress level

- **Exposure to smokers** (Cronbach's α=0.89)
  - Close friends, family, coworkers, people you party with

Measures

- Future priorities: 14 items → 3 factors
- Personality: 23 items → 7 factors
  - 6 items = sensation seeking
- Advertising Receptivity - Pierce
- Bar/club advertising exposure
- Depression score
- Demographics

Methods

◆ Factor analyses to reduce the data

◆ Main outcomes

   – Among all young adults:

      ◆ **Established smoking (smoked 100 + now some/every day) (28.9%)**

      ◆ **Current smoking (past 30 days) (30.8%)**

   – Among established smokers (N=451): Intention to Quit in next 6 months (40%)

◆ Univariate and multivariate logistic regression

Outcome: Established smoking

	Unadjusted OR (95% CI)	Adjusted[†] OR (95%CI)
<u>Smoking attitudes</u>		
Support Anti-industry Action	0.20 (0.15, 0.27)***	0.38 (0.24, 0.60)***
Smoking usefulness	5.70 (4.73, 6.87)***	4.81 (3.82, 6.07)***
SHS danger to nonsmokers	0.31 (0.25, 0.39)***	
Advertising Receptivity	2.79 (2.41, 3.22)***	1.59 (1.32, 1.92)***
Exposure to Smokers scale	6.21 (4.95, 7.80)***	2.65 (1.92, 3.67)***
Depressed mood	1.66 (1.32, 2.10)***	0.70 (0.48, 1.03)
Binge drinking	1.78 (1.60, 1.97)***	1.26 (1.07, 1.48)**
Exposed to ads in bars	1.33 (1.22, 1.45)***	1.16 (1.01. 1.33)*
Perceived smoking prevalence	1.30 (1.24, 1.37)***	1.20 (1.11, 1.31)***

[†]Controlling for age, sex, race/ethnicity, education, marital status, income

Outcome: Established smoking

	Unadjusted OR (95% CI)	Adjusted OR (95%CI)
Personality factors		
Sensation seeking	**1.22 (1.15, 1.29)***	
Gender equity	1.00 (0.80, 1.25)	
Materialism	1.08 (0.83, 1.40)	
Assertiveness	1.09 (0.86, 1.38)	
Attention seeking	0.95 (0.75, 1.21)	
Spends money easily	**1.38 (1.18, 1.62)***	
Stressed	**1.35 (1.20, 1.53)***	
General attitudes		
Future security important	**1.30 (1.02, 1.64)***	
Being hip important	**1.41 (1.11, 1.78)****	
Parenting/marriage important	0.91 (0.73, 1.13)	

Outcome: Established Smoking

	Unadjusted OR (95% CI)	Adjusted OR (95%CI)
Age	**1.11 (1.05, 1.16)***	**1.21 (1.11, 1.32)***
Less than High School Ed.	**ref**	**ref**
High school	0.92 (0.68, 1.24)	**0.53 (0.33, 0.84)**
Some college	**0.59 (0.44, 0.79)***	**0.40 (0.24, 0.66)***
Bachelor's degree or higher	**0.34 (0.22, 0.53)***	**0.23 (0.11, 0.51)***
Race/Ethnicity	p=0.065	p=0.004
White, Non-Hispanic	ref	ref
Black, Non-Hispanic	**0.68 (0.48, 0.96)***	**0.49 (0.28, 0.84)**
Other/2+ races, Non-Hispanic	0.64 (0.40, 1.03)	0.83 (0.40, 1.72)
Hispanic	0.89 (0.67, 1.20)	**0.47 (0.29, 0.76)**
Male gender	**1.27 (1.02, 1.58)***	1.05 (0.73, 1.49)
Single	**ref**	ref
Married	1.28 (0.96, 1.70)	1.26 (0.79, 2.01)
Divorced/wid/separated	**3.33 (1.80, 6.15)***	1.53 (0.52, 4.51)

Intent to Quit among Smokers

	Unadjusted OR (95% CI)	Adjusted[†] OR (95%CI)
<u>Smoking attitudes</u> Support Anti-Industry Action	4.10 (2.34, 7.18)***	5.54 (2.79,11.01)***
Smoking usefulness	0.93 (0.73, 1.18)	
SHS danger to nonsmokers	1.48 (1.01, 2.18)*	
Advertising Receptivity	0.64 (0.50, 0.81)***	0.68 (0.52, 0.90)**
Exposure to Smokers scale	0.47 (0.33, 0.66)***	0.49 (0.32, 0.76)**
Depressed mood	1.29 (0.88, 1.91)	
Binge drinking	0.84 (0.71, 0.996)*	0.79 (0.63, 0.999)*
Exposed to ads in bars	0.91 (0.79, 1.05)	
Perceived smoking prevalence	1.00 (0.91, 1.09)	

[†]Controlling for age, sex, race/ethnicity, education, marital status, income

Intent to Quit among Smokers

	Unadjusted OR (95% CI)	Adjusted OR (95%CI)
Personality factors		
Sensation seeking	**0.88 (0.79, 0.97)****	
Gender equity	1.07 (0.73, 1.57)	
Materialism	0.86 (0.55, 1.34)	
Assertiveness	**1.58 (1.06, 2.35)***	
Attention seeking	1.07 (0.71, 1.63)	
Spends money easily	1.04 (0.81, 1.35)	**1.44 (1.02, 2.05)***
General attitudes		
Future security important	**1.89 (1.27, 2.80)****	**2.20 (1.27, 3.80)****
Being hip important	0.81 (0.55, 1.21)	**0.54 (0.31, 0.92)***
Parenting/marriage important	1.45 (0.99, 2.12)	

Intent to Quit among Smokers

	Unadjusted OR (95% CI)	Adjusted OR (95%CI)
Age	1.05 (0.96, 1.14)	**1.14 (1.01, 1.29)***
Less than High School Ed.	ref	ref
High school	**0.56 (0.34, 0.92)***	0.61 (0.33, 1.12)
Some college	1.17 (0.71, 1.90)	1.14 (0.61, 2.11)
Bachelor's degree or higher	1.14 (0.52, 2.49)	1.00 (0.35, 2.87)
Race/Ethnicity	p=0.006	p=0.134
White, Non-Hispanic	ref	ref
Black, Non-Hispanic	**2.91 (1.57, 5.39)****	2.00 (0.94, 4.24)
Other/2+ races, Non-Hispanic	0.82 (0.34, 2.00)	0.57 (0.21, 1.56)
Hispanic	1.36 (0.83, 2.24)	1.36 (0.72, 2.59
Male gender	1.27 (0.87, 1.85)	**1.73 (1.07, 2.81)***
Single	ref	ref
Married	1.05 (0.65, 1.69)	1.16 (0.64, 2.10)
Divorced/wid/separated	0.54 (0.21, 1.35)	0.61 (0.17, 2.18)

Summary

◆ Supporting action against the tobacco industry protective against smoking

◆ Smoking "utility" a risk factor for smoking but not quitting

◆ Bars and clubs are important
  – Advertising, exposure to smokers and binge drinking associated with smoking and quitting

◆ Personality and Attitudes not associated with current smoking, may be associated with quitting

Implications

◆ Confirmation of California Results

◆ Tobacco denormalization campaigns may also affect young adult smoking

◆ Social venues, bars and clubs important for young adult smoking

◆ Advertising to young adults should be addressed