Sexual orientation disparities in smoking: A BRFSS analysis

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Basic concepts and terms
• Sexual orientation
  – Sexual identity
    • Gay, lesbian, bisexual, queer, questioning
  – Sexual behavior
  – Sexual attraction
• Lack of overlap of dimensions (e.g., Meyer et al., 2002)

Meyer et al., 2002

Attraction
Identity
Behavior
40%
37%
15%
4%
1%
0%
Transgender

- Gender identity ≠ sexual identity
- Umbrella term for transsexual, transvestite, intersex, etc.
- Overlapping but distinct health and psychological issues
- Less often assessed in research

Social environment for LGBT people: Oppression

- Homophobia – irrational fear, hatred, and intolerance of homosexuality (Weinberg, 1972)
- Heterosexism – ideological system that denies, denigrates, and stigmatizes any nonheterosexual form of behavior, identity, relationship, and community (Herek, 1990)
- Homonegativity, sexual prejudice
- Biphobia, transphobia

Oppression of LGBT people

- Embedded in laws, social institutions, cultural norms and values
  - Marriage and family
  - Workplace discrimination
  - Military policies
  - Religious institutions
  - Educational institutions
  - Media

Same-sex marriage laws in U.S.
Research on LGBT populations

- Social context influences research
  - Researchers’ willingness to take on this topic
  - Potential for misuse of research results
  - Funding for research

Importance of LGBT research

- Promote social justice for LGBT people
- Counter myths and stereotypes with data
- Potential for big impact
- Methods and results translate to other marginalized groups

LGBT smoking: A health disparity

- Robust findings across several studies indicate higher rates of smoking among LGBT adolescents and adults compared to heterosexual adolescents and adults (see Hughes & Jacobson, 2003; Ryan, Wortley, Easton, Pederson, & Greenwood, 2001, Lee et al. 2009 for reviews)

Current smoking rates in WA State (Dilley et al., 2009)
Lifetime smoking rates in WA and OR (Pizacani et al., 2009)

- Bisexuals – highest risk group?
  - Our own analyses found that bisexual women and men in WA state smoke at significantly higher rates than both lesbians/gay men and heterosexuals
  - Bisexuals report greater risk on other health indicators as well (mental health problems, alcohol use)

The next question is…

**WHY???

(do LGB people smoke more than heterosexual people)

Prior research on this question

- Majority of studies on sexual orientation focus on differences in rates of smoking between LGB and heterosexual people
- Very little research on reasons for these differences, or on within-group determinants of smoking for LGB people
And yet...

- We know that LGB people are different from heterosexual people on a number of dimensions that are related to smoking:
  - Demographics
  - Mental health and substance use
  - Healthcare access
  - Exposure to tobacco advertising

Demographics

- LGB people more likely to be single, live in an urban area, have more education yet lower income, and less likely to have children compared to heterosexuals (Gates & Ost, 2004; Rothblum, Balsam, & Mickey, 2004; Rothblum, Balsam, Todosijevic, & Solomon, 2006)

Mental health

- Robust body of literature over past decade demonstrates small but significant elevation in rates of depression, anxiety, and psychological distress among LGB compared to heterosexual populations (Cochran, 2002; Balsam, Beauchaine, Rothblum, & Mickey, 2005)

Alcohol use

- LGB populations more likely to drink alcohol, have an alcohol-related disorder (abuse or dependence), and report alcohol-related problems compared to heterosexuals, although this difference found more often among women (Cochran, 2002; Hughes, 2005)
Healthcare access

- LGB people are at disadvantage due to
  - Lower income
  - Perceived discrimination by healthcare providers
  - Lack of domestic partner/spousal access to insurance

Health insurance coverage in WA state (Dilley 2009)

Exposure to tobacco advertising

- As LGB communities have become increasingly visible, companies have targeted these communities through marketing and advertising efforts
- Tobacco companies among the first to do so and continue to advertise and provide sponsorship for events and organizations

Offen, Smith, and Malone (2008)

- Interviewed leaders of 74 LGBT organizations and publications in U.S., including health-related organizations
- 22% had accepted tobacco industry funding
- Yet only 24% identified tobacco as an important issue for LGBT communities
Smith, Thomson, Offen, & Malone (2008)

• Conducted focus groups with LGBT individuals in 4 U.S. cities
• Participants expressed little objection to tobacco advertising in LGBT communities
• Instead, they saw targeting as validating and countering historic invisibility
• Tobacco was not seen as an important LGBT health issue

Dilley, Spigner, Boysun, Dent, & Pizacani (2008)

• In WA State:
  – Gay and bisexual men report more exposure to tobacco advertising than heterosexual men
  – Lesbian and bisexual women report more exposure to tobacco advertising than heterosexual women
• Also more receptivity to advertising

Mediational model: McKirnan et al., 2006

• Compared data from survey of men who have sex with men (MSM) and general population from National Health Interview Survey
• Depression, alcohol use, and health access were found to significantly contribute to smoking health disparities between MSM and other men

Phase 1 of our BRFSS analyses: Why do LGB people smoke more?

• Tested a mediational model of sexual orientation differences in smoking
• Categorized sexual orientation as a three level variable (lesbian/gay, bisexual, heterosexual)
Our model

Mediating variables

- Demographics: Education, income, relationship status (married/partnered vs single), employment status, children under 18 in the home, rural/urban
- Mental health: Number of poor mental health days in past 30
- Alcohol use: Binge drinking and heavy drinking

Mediating variables cont’d

- Healthcare access: Health insurance, recent doctor visit
- Other psychosocial variables: Life satisfaction, emotional support
- Attitudes/knowledge: Attitude toward secondhand smoke, belief that smoking isn’t important in causing cancer
- Exposure to tobacco advertising

WA State BRFSS

- The Behavioral Risk Factor Surveillance Survey (BRFSS) is a CDC-sponsored, state-based, random-digit dialed telephone health survey system that has tracked health conditions and risk behaviors in the U.S. annually since 1984.
- WA State added sexual orientation question in 2003
Methods
• Pooled data from 2003-2007 in order to have sufficient sample size of lesbian, gay, and bisexual participants
• Focused on questions that were included in the BRFSS in all (or most) of these five years

Participants
• Women:
  – 61,923 Heterosexual
  – 705 Bisexual
  – 774 Lesbian
• Men
  – 38,743 Heterosexual
  – 297 Bisexual
  – 645 Gay

Analyses
• Models run separately for men and women
• Controlled for age and race/ethnicity differences

Overall findings
• Our mediators accounted for almost of the sexual orientation differences in smoking
  – 87% reduction for men
  – 97% reduction for women
• Included both risk enhancers and risk reducers
Risk enhancers for LGB men and women
- Being single
- Poor mental health
- Heavy or binge drinking
- Life dissatisfaction
- Exposure to tobacco advertising (except for bisexual men)

Risk enhancers for bisexual women and men only
- Low income
- No health insurance
- No recent doctor visits (bisexual women only)

Risk enhancers for lesbians/gay men only
- Living in an urban area (gay men)
- Employed (lesbians)

Risk reducers
- No children in the home (LGB women and men)
- High educational attainment (lesbians and gay men only)
- Unemployed (bisexual men only)
Neutral variables (no mediating effect)
- Low emotional support
- Favorable attitudes towards secondhand smoke
- Belief that so many things cause cancer, smoking doesn’t matter

Discussion of findings
- Single relationship status, mental health, alcohol use, and exposure to advertising were the most robust mediating variables
- If sexual orientation differences in these variables could be reduced, differences in smoking would also significantly be reduced

Public health implications
- Relationship status: changing laws, policies, and perceptions regarding LGB people in society will help support long-term same-sex relationships, which may have direct impact on smoking behaviors

Public health implications
- Mental health problems and heavy alcohol use are important, modifiable targets for public health efforts to reduce smoking rates in LGB communities
- Numerous existing interventions for these problems might be adapted and tailored for LGB communities and individuals
Public health implications
• Despite its “legitimizing” role in LGBT communities, the tobacco industry presence has an adverse effect on the health of individuals by promoting smoking
• LGBT community leaders and members should be informed about the harmful impact of tobacco advertising

Bisexuals as a distinct, high-risk group
• Bisexual women and men have even higher rates of smoking than their lesbian/gay peers
• Unique risk factors associated with economic disadvantage (low income, lack of health insurance)

Public health implications
• Health surveys should include questions about bisexual identity and behavior to continue to distinguish the health profile of this group
• Further within-group exploration of the unique demographic profile and challenges faced by this population would be useful (focus groups, in-depth interviews)

Some surprising findings to follow up on…
• Having children under 18 in the home is associated with higher rates of smoking for all participants
  – Thus, being less likely to have children actually lowers risk for LGB people
  – Post-hoc stratified analyses revealed that this was true only for those with incomes under $50K
  – Reverse was true for incomes above $75K
  – Why might this be?
Some more surprising findings to follow up on…

• Being employed is associated with higher rates of smoking
  – Thus, lesbians’ relatively higher rate of employment is a risk factor
  – Post-hoc stratified analyses revealed that this was true for all income levels except lowest (< $25K per year)
  – Why might this be?

Non-significant findings and public health implications

• LGB people’s attitudes and knowledge regarding smoking do not differ overall from heterosexuals
  – Thus, interventions focusing on attitude change and education are not likely to reduce health disparities

Non-significant findings and public health implications

• Although bisexuals report lower emotional support, this is not a mediator of their smoking risk
  – Thus, interventions focusing primarily on support are not likely to be effective in reducing smoking in this population

Implications for future research

• While our model helped explain most of the sexual orientation disparities in smoking, it did not explain all of it
• Thus, there may be other factors that weren’t included in the BRFSS that may be playing a role
Minority stress

- Concept comes from social stress theory – idea that conditions of the social environment, not just individual events, are sources of stress that may lead to physical and mental health problems
- For minority group members, stigma, prejudice, and discrimination create such a stressful social environment

LGBT minority stress

  - External, objective stressful events
  - Expectation of these events and vigilance
  - Internalization of negative societal attitudes
  - Concealment or disclosure of sexual orientation

LGBT minority stress

- Similar to other groups
  - Range of stressful experiences
  - Internalized oppression
  - Potential for multiple oppressions
- Different from other groups (Meyer, 2003; DiPlacido, 1998)
  - Potentially concealable identity
  - Different stressors according to "outness"
  - Childhood context

LGBT minority stress model

- Stress
  - Victimization
  - Discrimination
  - Chronic stressors
  - Daily stressors
  - Concealment
  - Expectations of rejection
  - Internalized oppression

- Coping
  - Social support
  - Community ties
  - Coping strategies
  - Identity attitudes

- Health outcomes
  - Physical health
  - Health risk behaviors
  - Mental health
  - AOD use
  - Interpersonal functioning
LGBT minority stress model

**STRESS**
- Victimization
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**COPING**
- Social support
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- Coping strategies
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- Physical health
- Health risk behaviors
- Mental health
- AOD use

**HEALTH OUTCOMES**
- Race/Ethnicity
- Cultural norms

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**LGB smoking rates: Does stress play a role?**

- Little research in this area
  - Eisenberg and Wechsler (2003) used found that college women with more GLB resources on campus smoked less
  - Remafadi (2006) found that nearly half of LGBT youth who smoke cited stress as a factor

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**Additional relevant research on minority stress**

- Burgess et al. (2007) found that mental health disparities between LGB and heterosexual populations persisted, even when discrimination experiences were controlled for.
- Rosario et al. (2008) found that gay-related stressors mediated the relationship between gender atypicality and smoking in a sample of young lesbian and bisexual women.
The potential role of trauma

- Higher rates of physical and sexual abuse in childhood and adulthood among LGBs compared to heterosexuals (e.g., Balsam et al., 2005; Corliss, Cochran, & Mays, 2002)
- Trauma exposure associated with higher rates of smoking (see Feldner, Babson, & Zvolensky, 2007, for a review)

Support for the “minority stress” hypothesis in our study

- “Life dissatisfaction” might be a proxy for minority stress experiences
- Sexual orientation differences in mental health, alcohol use may be related to minority stress
- Exposure to advertising is a direct result of being a targeted minority population

Public health implications

- BRFSS and other public health surveys should consider including questions about stress, discrimination, and trauma
  – Could help explain smoking and other indicators of health
  – Provide a more accurate picture of the life experiences of marginalized groups
  – Explain bisexuals’ relatively high risk

Other methodological issues

- Sampling considerations
  – Large number of participants needed to get small number of LGBs
  – How “representative” is BRFSS sample of LGBs?
  – How to get large enough sample size of sub-groups, particularly ethnic minority LGBs
Next steps:
Part 2 of our BRFSS analyses
• Question: Why do LGB people quit smoking at lower rates than heterosexuals?
• Based on Pizacani’s (2009) finding that in WA state, LGB people are less likely to quit, even though their motivations and intentions to quit are the same as heterosexuals’

Our analyses (in progress)
• Looking at a mediated model (similar to Part 1 analyses) to explain why LGB people do not quit as often as heterosexuals

Next steps: Other studies
• Rainbow Women’s Health Survey
  – Comprehensive survey of health and its determinants among diverse lesbian and bisexual women in WA state
  – Currently completing data collection on 260 adult women (35% ethnic minority)
  – Will be able to examine role of stress, trauma, social and cultural norms in greater detail

In conclusion…
• Lesbian, gay, and bisexual adults are a high risk population for tobacco and other health-related behaviors
• Prevention and intervention efforts need to take into account the variables that might be driving this high risk, as well as the unique cultural and social needs of this group
The end!