The Impact Of Social Cohesion and Distress On The Health Of Race/Ethnic, and Lesbian, Gay, And Bisexual People

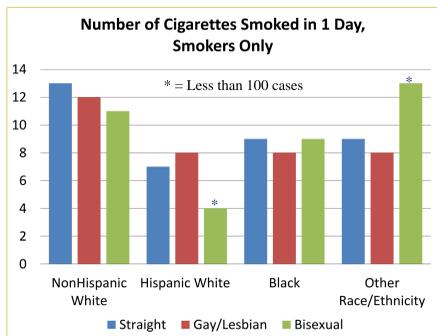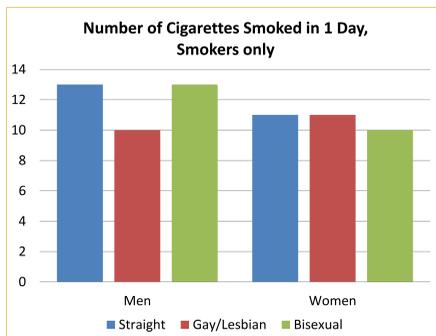**Emilia Lombardi, PhD**
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1. Federal Health Surveillance finds Lesbian, Gay, and Bisexual Populations to use cigarettes more than heterosexual populations.

- The National Health Interview Survey has shown that Lesbian, Gay, and Bisexual men and women are more likely to smoke cigarettes then heterosexual men and women. (Jamal et al., 2014, 2015, 2016)

- A finding also found in National Adult Tobacco Survey. (Hu et al., 2016)(Johnson et al., 2016)

- Findings for these studies are mixed in regards to Black populations.

2. Stress and Discrimination Are Important Factors Related To LGB Tobacco Use

- Macroaggressions (unintentional insults, assaults, and invalidations) was associated with current smoking.(Ylioja, Cochran, Woodford, & Renn, 2016)

- Smoking was found to be maladaptive coping technique for identity-based stressors.(Jannat-Khah, Dill, Reynolds, & Joseph, 2017)

3. Minority Stress Theory States That Minority Status Will Affect People's Social Resources and Health Outcomes. (Meyer, Schwartz, & Frost, 2008)

- The study will examine the relationship between minority status (Race/Ethnicity, Sexual Orientation), social cohesion, distress, and cigarette use.

- Social cohesion are the connections and relationships people have within their neighborhood.

- Neighborhoods are significant in that they bring together many people and provide opportunities for social interaction. People with sexual and race/ethnic identities are expected to report lower levels compared to their white and heterosexual counterparts.

4. Methods

- Data from the National Health Interview Survey (NHIS) 2013-15 survey waves were combined into a single dataset

- The NHIS is a multistage, area-probability sample design and is a nationally representative health survey of US noninstitutionalized, civilian population conducted by the National Center for Health Statistics. (National Center for Health Statistics, 2014, 2015, 2016) The NHIS created five imputed income datasets because of the high nonresponse rate found in the measures of personal and family income.

- The sample size and response rate for each wave of the adult data are:
  - 2013: 34,557 cases, 32.93%
  - 2014: 36,699 cases, 34.98%
  - 2015: 33,672 cases, 32.09%

- The total number of cases in the combined waves was 104,928 cases.

6. Analysis

- Analysis was done using R (v. 3.3.3) and Rstudio (v. 1.0) for windows.(R Core Team, 2017; RStudio Team, 2016) In order to properly handle NHIS's sampling design the analysis utilized the Survey package developed by Thomas Lumley for use with surveys with complex sampling designs.(Lumley, 2014b) Lumley also created a package to incorporate multiple imputed data (MItools) that works with R and his Survey package.(Lumley, 2014a)

- SVYGLM (generalized linear modeling embedded within the Survey package) was used to analyze the continuous variables (social cohesion, distress, and pain), and loglinear models were used to analyze the smoking variable.

- Table 1 has descriptive statistics

ABSTRACT

➢ Social stress theory posits that minority status (race/ethnic and LGB) can impact both coping resources and health outcomes. The study examines the role social cohesion plays in the health of race/ethnic and lesbian, gay, and bisexual (LGB) populations using data from the 2013-2015 National Health Interview Survey.

➢ The NHIS is a multistage, area probability sample design and is a nationally representative health survey of US noninstitutionalized, civilian population conducted by the National Center for Health Statistics. The total number of cases in all three waves was 104928. Analysis was done using R (v 3.3.3) and Rstudio (v 1.0) for windows. In order to properly analyze NHIS's sampling design the analysis utilized the Survey package developed by Thomas Lumley for use with surveys with complex sampling designs.

➢ Race/ethnic and sexual minorities reported less social cohesion than white and heterosexual participants, and social cohesion was negatively related to measures of distress, and smoking more than a pack of cigarettes a day.

➢ These findings support the theory in that minority groups have reduced people's social resources (in this case social cohesion). Lower levels of social cohesion indicates having not as many social connections and relationships with people their neighborhood. The experience of being a race/ethnic or sexual minority means isolated from other social relationships, which could impact their access to coping resources like social support. This creates a situation very different from that experienced by White heterosexual men and women.

5. Variables

- *Social Cohesion.* Participants rated agreement/disagreement with the following statements:
  - People in this neighborhood help each other out;
  - There are people I can count on in this neighborhood;
  - People in this neighborhood can be trusted; and
  - This is a close-knit neighborhood.
- A neighborhood cohesion score was constructed (range: 4 to 16) with a higher score indicating greater social cohesion. Cronbach's alpha for this measure was .89.

- *Distress.* Participants responded to Kessler's psychological distress scale asking if in the past 30 days did people feel:
  - A. So sad that nothing could cheer you up?,
  - B. Nervous?,
  - C. Restless or fidgety?,
  - D. Hopeless?,
  - E. That everything was an effort?, and
  - F. Worthless?
- This measure was then multiplied by their response to the question "Altogether, how much did these feelings interfere with your life or activities: a lot, some, a little, or not at all?" The variable ranged from 2-96 and a high score indicates a high level of distress. Cronbach's alpha for this measure was .86.

- *Smoking status* was based on those who report smoking at least 100 cigarettes in their entire life and currently smoking one pack of cigarettes a day or more.
  - One measure identifies whether a participant currently smokes cigarettes (any amount) or not.
  - Another measure identifies whether a participant currently smokes a pack or more cigarettes a day or not.

- *Demographic characteristics* consist of participant's age, gender, race/ethnicity, education, sexual orientation, and survey year.

Table 1: Descriptive Statistics

	%	Mean	Standard Deviation
Race/Ethnicity			
White, Non-Hispanic	61.18%		
White, Hispanic	15.04%		
Black	14.49%		
Other Race/Ethnicities	9.29%		
Gender			
Men	44.71%		
Women	55.29%		
Sexual Orientation			
Bisexual	.79%		
Gay	1.70%		
Straight	97.51%		
Working Status			
Looking for Work	4.59%		
Not Working	38.58%		
Working	56.83%		
Survey Year			
2013	32.93%		
2014	34.98%		
2015	32.09%		
Age		46.97	17.96
Education		15.11	3.25
Family Income $		69,737.17	54,181.59
Social Cohesion		8.38	3.21
Distress		16.72	18.09
Cigarettes smoked a day, Smokers Only		11.85	8.93
Smoking a pack or more of cigarettes a day	4.65%		

7. Table 2, Social Cohesion

- Black, Hispanic, and other race/ethnic populations reported lower levels of social cohesion compared with white populations

- Gay and bisexual populations reported lower levels of social cohesion compared with heterosexual populations

- Generally, being white, heterosexual, having a college education and greater income was associated with more social cohesion as reported by the participants.

8. Table 2, Social Distress

- Black men and women also reported less distress compared with white men and women.

- Gay and bisexual men and women reported more distress compared to heterosexual men and women.

- Greater social cohesion was associated with less distress.

9. Table 3, Any Smoking (any amount, includes nonsmokers)

- Black, Hispanic, and other race/ethnic populations were less likely to smoke cigarettes compared with white populations

- Gay/Lesbian men and women were more likely to smoke cigarettes compared to heterosexual men and women.

- There was not a difference between bisexual and heterosexual men and women after including social cohesion and distress within the model.

- People reporting higher levels of social cohesion were not as likely to smoke cigarettes, while people with higher levels of distress were more likely to smoke.

10. Table 3, Smoking 1 pack or more a day (includes nonsmokers)

- Black, Hispanic, and other race/ethnic populations were less likely to smoke a pack or more cigarettes a day compared with white populations

- Gay and bisexual populations did not differ in their likelihood of smoking a pack or more cigarettes a day than heterosexual men and women even before social cohesion and distress were entered into the model.

- People reporting higher levels of social cohesion were not as likely to smoke a pack or more of cigarettes day, while people with higher levels of distress were more likely to smoke a pack or more cigarettes a day.

Table 2: Generalized Linear Model (Other Demographic Variables Not Shown)

	Social Cohesion b	Distress b
Black	-.89***	-2.31***
Hispanic	-.79***	.45
Asian/Pacific Islander/ Native American	-.52***	.08
Gay or Lesbian	-.39***	2.78*
Bisexual	-.95***	9.06**
Social Cohesion		-.63***

Table 3: Generalized Linear Model: Quasibinomial (Other Demographic Variables Not Shown)

	Any Smoking		Smoking one or more packs a day	
	Odds Ratio	97.5% Confidence Interval	Odds Ratio	97.5% Confidence Interval
Black	.57	.51-.64***	.28	.22-.34***
Hispanic	.27	.24-.31***	.11	.08-.15***
Asian/Pacific Islander/ Native American	.62	.52-.73***	.38	.29-.52***
Gay or Lesbian	1.49	1.15-1.95**	1.14	.74-1.76
Bisexual	1.04	.74-1.45	1.16	.71-1.89
Social Cohesion	.97	.95-.98***	.96	.95-.98***
Distress	1.012	1.01-1.015***	1.01	1.0097-1.02***

11. Discussion/Conclusion

- Examining a nationally representative health survey the data shows that while there is some evidence of greater use of cigarettes by LGB populations, but it was not as strong as it has been communicated within other studies.

- While LGB people are more likely to smoke cigarettes they are not more likely to smoke a pack or more a day indicating lower level of use within the US population. But these relationships tended to minimize or disappear once socioeconomic and other measures were accounted for.

- Non-Hispanic White populations were more likely to smoke than other race/ethnic groups controlling for SES and other measures. This mirrors other studies that found subpopulations of white men and women to have various health disparities related to substance use. (Case & Deaton, 2015)

- While race/ethnic and sexual minority identities themselves were not strongly associated with cigarette use, the impact of social resources and distress is important as that they may be more relevant in understanding cigarette use, especially among LGB populations. Minority identity status limits coping resources, increasing distress perhaps primarily though limiting social coping resources, and eventually impacting cigarette use.

- Limitation: Its important to note that the large sample size allows for small effect sizes to be found to be significant. So while social cohesion and distress were significantly related to smoking, the effects were small.

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For a copy of the poster scan:

Number of Cigarettes Smoked in 1 Day, Smokers only

Number of Cigarettes Smoked in 1 Day, Smokers Only
* = Less than 100 cases

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