Rates and Correlates of Physical Activity among Underserved Minority Populations: Evidence from South Carolina's LGBT Tobacco Users

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Introduction

- Increasing participation in a regular physical activity (PA) is a national health priority due to its impact on obesity and numerous chronic diseases.
- Physical activity (PA) is critical in reducing the risk of many adverse health outcomes such as chronic diseases (e.g. obesity, cardiovascular diseases, type 2 diabetes, some cancers) and improving the quality of life (e.g., improved self-esteem, decreased symptoms of depression).
- 48% of U.S adults meet the CDC's PA recommendations [1].
  - *150 min or more of moderate or 75 min or more of vigorous activity every week*
- PA rates are especially low among southern states [2].
  - *only 18.5% of adults in SC met PA recommendations in 2011.*
- LGBT individuals experience poorer health outcomes than their heterosexual peers due in part to various social, economic, behavioral, cultural, and societal factors [3].
- Little research on LGBT health has been developed.
- National Research Council (NRC) report suggests existence of significant research gaps to be explored to advance knowledge and understanding of LGBT health [4].

Objective

Estimate the correlation of socio-economic, demographic, behavioral, health, LGBT status, and social norming factors with PA among SC LGBT individuals.

Policy Importance

Understanding determinants or correlates of PA among the LGBT is essential for:

- furthering health research on this population and
- fostering design of relevant policies and programs to increase PA.

Results could be important for health policy and program development at both state and community levels to support social and physical environments to improve LGBT PA and quality of life and reduce effects of chronic diseases on LGBT individuals.

Data & Methods

Phase 1 (2012)

- Intercept surveys at 4 (four) major Pride events in SC (Spartanburg, Charleston, and Columbia) and bordering city in GA (Augusta)
- Collected preliminary data and consent for a larger study.
- Additional email lists were provided by the Harriet Hancock LGBT Center and SC Pride Organization.

Phase 2 (2013)

- Online survey as part of a tobacco use and behavior study conducted among SC's LGBT population.
- Validated questionnaire (77 questions) measuring PA, tobacco use and cessation behavior, nutrition, health and weight indicators, social norming, and socio-economic and demographic factors.
- Eligible participants received $25 Amazon gift card upon completion of the survey.

Figure 1. Data Collection Diagram

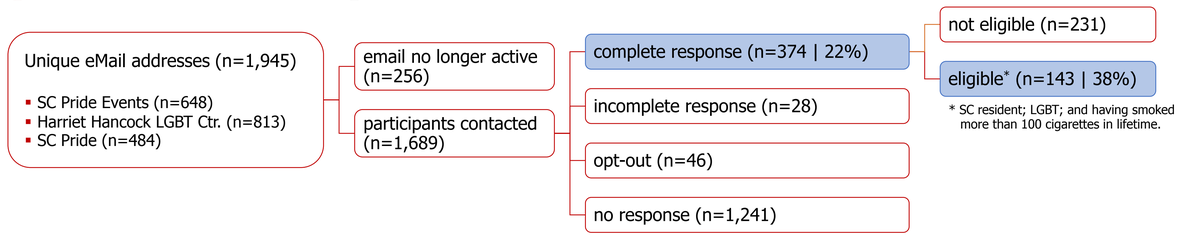

Table 1. Baseline Characteristics (n=143 eligible respondents)

Male	48 %
Female	50 %
Gay	41 %
Lesbian	38 %
Bisexual	17 %
Health insurance	73 %
Very good/excellent health	58 %
Race	
White	84 %
Black	8 %
At least college	42 %
Grad school	15 %
Married or dating	70 %
Income (over $50,000)	45 %

Age (mean)	37 years
MVPA METs/week	
Gay	1,615
Lesbian	807
Bisexual	1,659

	SC LGBT	SC	US
BMI (%)			
Obese (>30)	28	32	28
Overweight (25-30)	31	35	36
Normal (< 25)	41	34	36
Current smoker (%)	56	22.5	19.6

Measures & Analysis

- Moderate and Vigorous PA (MVPA) for the last 7 days was measured using IPAQ questionnaire.
- Weekly MVPA metabolic equivalents (METs) were calculated using IPAQ scoring protocol.

- **Participation**: estimated associations between MVPA participation (yes/no) and independent variables using logistic regression.
- **Consumption**: estimated associations between weekly MET minutes of MVPA and independent variables using ordinary least squares.

Table 2. Regression Results

MVPA Participation (yes/no)	**OR**
Lesbian (= 1 if yes)	**3.73****
Young and lesbian (=1 if lesbian & <25 old)	0.28
Overweight (= 1 if BMI ≥ 25)	**0.35***
Kids (= 1 if 2 or more children at home)	**0.09****
Student (= 1 if yes)	**8.65****
Employed (= 1 if full time employed)	0.81
Heavy alcohol drinker (=1 if *5 or more drinks w/in few hours*)	**0.21****
Drugs (=1 if *using marijuana or hash*)	**0.79*****
Income (household income)	24.98
Income^2	0.57
Income50 (= 1 if more than 50K.year)	**7.43***
Education (=1 if at least 4-year college)	**2.62***
Depression variable (= 1 if felt depressed)	**2.88***
Diet (=1 if was on diet in past year)	**2.74***
Health (= 1 if excellent health)	**25.95*****
Race (= 1 of black, = 0 otherwise)	0.36
Intercept	0.03

Consumption (weekly MET min)	**Coef.**
Lesbian (= 1 if yes)	**-1.371*****
Young and lesbian (=1 if lesbian & <25 old)	**2.429*****
Employed (= 1 if full time employed)	**0.600****
Heavy alcohol drinker (=1 if *5 or more drinks within a few hours*)	-0.181
Drugs (=1 if *using marijuana or hash*)	-0.039
Income (household income)	-0.457
Income^2	0.031
Education (=1 if at least 4-year college)	0.119
Depression variable (= 1 if felt depressed)	0.195
Diet (=1 if was on diet in past year)	0.215
Health (= 1 if excellent health)	0.551
Race (= 1 of black, = 0 otherwise)	0.328
BMI	**-22.171***
BMI^2	**71.296***
Age	**0.061*****
Age (= 1 if > 45)	**1.473*****
Kids (= 1 if 2 or more children at home)	0.074
Dating (=1 if dating)	0.120
Disabled (=1 if disabled)	**-1.481****
Fruits (= 1 if eating fruit daily)	**0.681***
Vegetables (= 1 if eating vegetables daily)	**-0.836***
Insurance (=1 if has a health insurance)	-0.147
Intercept	-7.353

Significant at: ***1%; **5%; *10%

Discussion

- Results suggest that 57% of LGBT in our sample meet or exceed CDC recommendations for MVPA.
- MVPA engagement (participation=yes/no) is higher among lesbians.
- MVPA intensity (consumption=weekly MET min) is higher among gays and bisexuals.
- Results provide better understanding of PA correlates among this understudied population that can be used for policy and program development to improve LGBT PA and health.
- Results show evidence in support of the anecdotal evidence that, among LGBT, gays are more attentive to their physique than lesbians. Additional research is warranted to further explore the social and behavioral norms and correlates of such outcomes.

Limitations: Data represent the LGBT individuals who are open about their sexual orientation. Caution should be used when generalizing the results to the LGBT individuals who do not publicly disclose their sexual orientation and, therefore, could not be reached to be included in the study.

Future research is needed to explore more in-depth correlates and correlate-interactions of MVPA duration and intensities (low, medium, high) with a larger sample that includes those who do not openly identify as LGBT.

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