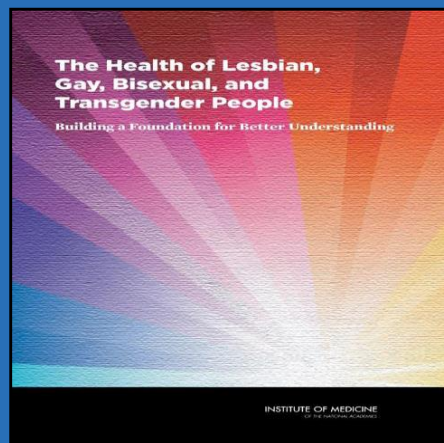


# Structural Stigma and the Health of Lesbian, Gay, and Bisexual Populations

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Associate Professor of Sociomedical Sciences and Sociology  
Columbia University Mailman School of Public Health

## LGBT Health Disparities

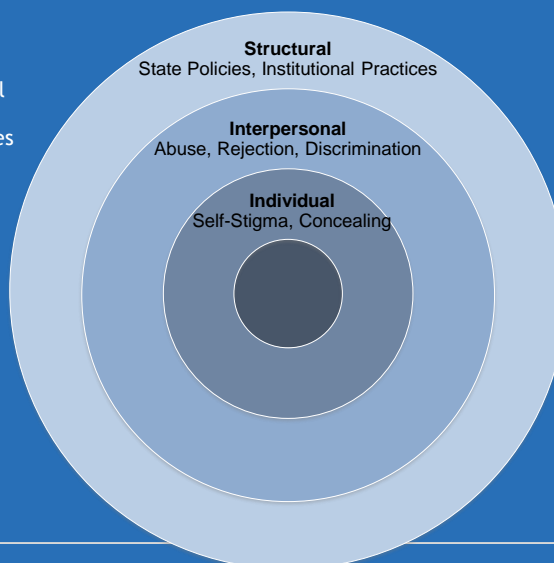




Hate crimes  
Bullying  
Stereotypes  
Psychological responses

## Stigma: A Multi-Level Construct

“Societal-level conditions, cultural norms, and institutional policies and practices that constrain the opportunities, resources, and wellbeing of the stigmatized” (Hatzenbuehler & Link, 2014, p. 1).



“The under-representation of [structural stigma] is a dramatic shortcoming in the literature on stigma, as the processes involved are likely major contributors to unequal outcomes” (Link et al., 2004, p. 515).

## Multi-Measure, Multi-Method, Multi-Group, Multi-Outcome Approach to Studying Structural Stigma and Health

- Measures of structural stigma
  - Social policies (Hatzenbuehler et al., 2009; 2010; 2012; 2017)
  - Social attitudes (Hatzenbuehler et al., 2014; in press)
  - Composite indicators (e.g., Pachankis, Hatzenbuehler, et al., 2015)
- Methods
  - Observational designs (Hatzenbuehler et al., 2009; 2017; Pachankis et al., 2015)
  - Quasi-experimental designs (Hatzenbuehler et al., 2010; 2012)
  - Laboratory designs (Hatzenbuehler & McLaughlin, 2014)
- Groups
  - Sexual minorities (Hatzenbuehler et al., 2009; 2010; 2012)
  - Racial minorities (Lukachko, Hatzenbuehler et al., 2009)
  - Ethnic minorities (Hatzenbuehler et al., 2017)
- Health outcomes
  - Psychiatric morbidity, suicide attempts (Hatzenbuehler et al., 2009; 2011)
  - Health behaviors (Hatzenbuehler et al., 2014)
  - Premature mortality (Hatzenbuehler et al., 2014)

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### Approach #1a: Capitalize on State-Level Variation in Social Policies Targeting LGB Populations

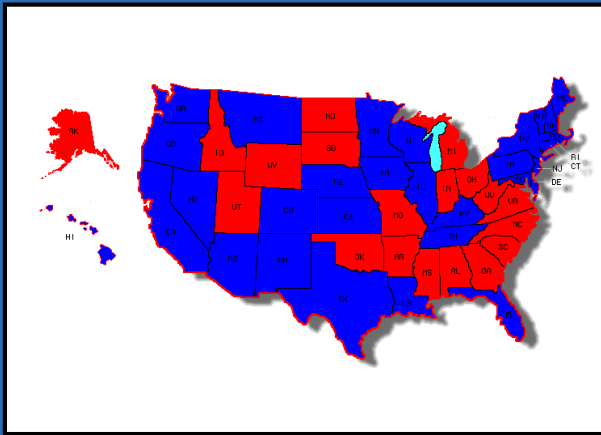
#### State-Level Policies and Psychiatric Morbidity In Lesbian, Gay, and Bisexual Populations

| Mark L. Hatzenbuehler, MS, MPhil, Katherine M. Keyes, MPH, and Deborah S. Hasin, PhD

December 2009, Vol 99, No. 12 | American Journal of Public Health

PS

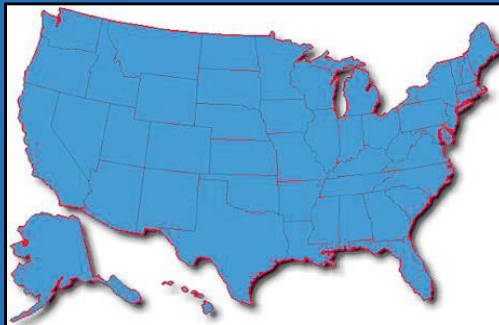
## Measure of Structural Stigma: State-Level Policies



- (1) Hate Crimes
  - (2) Employment Discrimination
- Red = States with no protective policies
  - Blue = States with at least one protective policy

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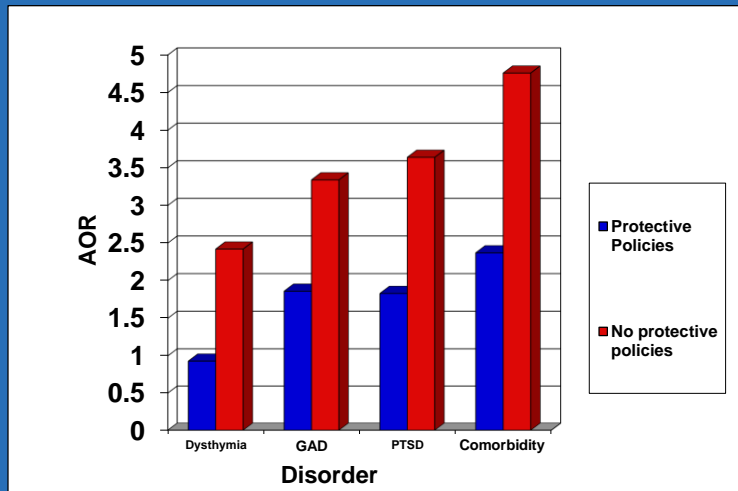
## National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)



- Wave 2 (N=34,653)
- Household and group residents
- Face-to-face interviews
- Response rate: 81%
- Oversampling of Blacks, Hispanics, young adults (18-24 yrs)
- DSM-IV diagnoses
- Sexual orientation (1.67% LGB-identified [1.86% men, 1.52% women])

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## Sexual Orientation Disparity In Psychiatric Morbidity Is Higher In States With Structural Forms Of Stigma



<sup>19</sup> Covariates: sex, age, race/ethnicity, SES, marital status, perceived discrimination

## Addressing Alternative Explanations: Limited Evidence for Social Selection by Health Status

- Minimal sexual orientation differences in geographic mobility in the General Social Survey (2008-2014)
  - Live in same city: 38.1% of sexual minority respondents live in the same city since 16, vs. 39.0% of heterosexuals.
  - Different city, same state: 23.2% of sexual minorities reported moving to a different city in the same state, vs. 23.2% of heterosexuals.
  - Different state: 38.7% of sexual minorities have moved to a different state, vs. 36.2% of heterosexuals.
- Relation to health:
  - Among those in fair/poor health, sexual minorities are *more* likely to have moved out of state than heterosexuals (43% vs. 37%), the opposite of what the selection hypothesis would predict
  - Suggests results are robust to selection effects regarding mobility

## Approach #1b: Capitalize on County-Level Variation in Social Policies Targeting LGB Populations



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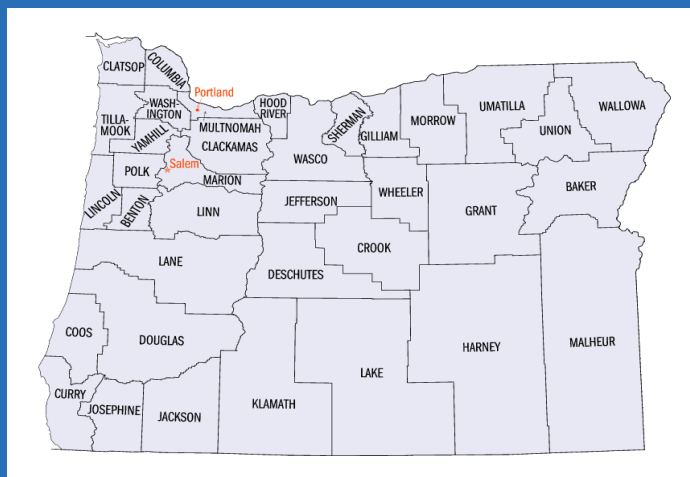
Original article

### Inclusive Anti-bullying Policies and Reduced Risk of Suicide Attempts in Lesbian and Gay Youth

Mark L. Hatzenbuehler, Ph.D.<sup>a,\*</sup>, and Katherine M. Keyes, Ph.D.<sup>b</sup>

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## Oregon Counties



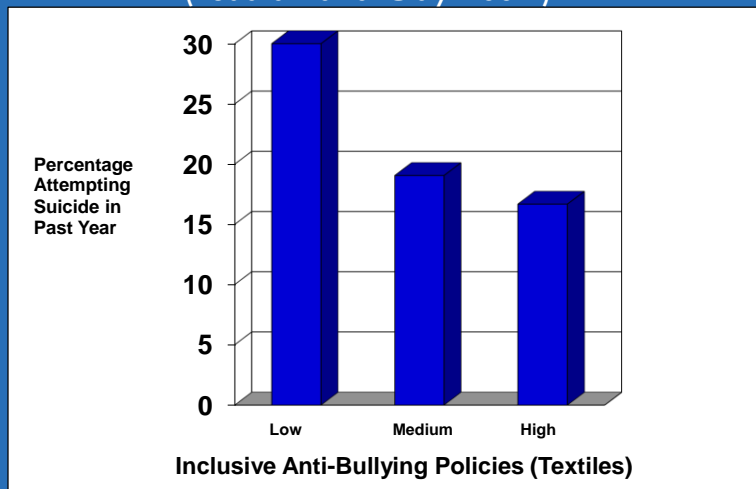
Proportion of school districts with anti-bullying policies that were inclusive of sexual orientation in 34 Oregon counties

## Oregon Healthy Teens (OHT) Study

- Linked ecologic data on inclusive anti-bullying policies at the county level to individual health outcomes among lesbian and gay youth living in these counties
- Health and sexual orientation data from OHT study
  - Annual surveys to over 1/3 of Oregon's 11th grade public school students
  - Modeled on Youth Risk Behavior Surveillance studies from CDC
  - N=31,852 11th grade students (2006-2008)
  - N=301 lesbian and gay respondents
  - Outcome measure: any suicide attempt in the past year (Brener et al., 1995; 2002)

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## Highest Risk of Suicide Attempts in Counties with Lowest Proportion of School Districts with Inclusive Anti-Bullying Policies (Lesbian and Gay Youth)



OR=2.25, 95%CI=1.13, 4.49

Hatzenbuehler & Keyes, (2013), *J Adolesc Health*

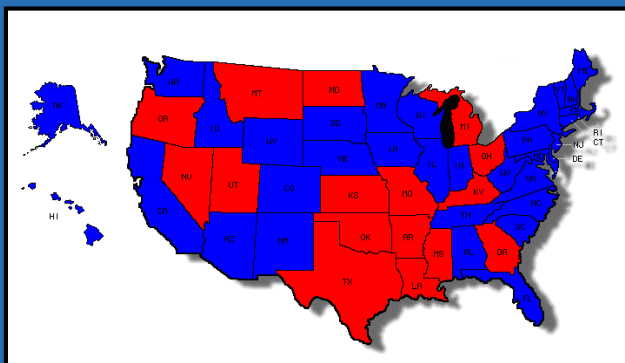
## Approach #2a: Capitalize on Rapidly Changing Policy Environment to Conduct Natural Experiments

### **The Impact of Institutional Discrimination on Psychiatric Disorders in Lesbian, Gay, and Bisexual Populations: A Prospective Study**

Mark L. Hatzenbuehler, MS, MPhil, Katie A. McLaughlin, PhD, Katherine M. Keyes, MPH, and Deborah S. Hasin, PhD

American Journal of Public Health | March 2010, Vol 100, No. 3

## **Constitutional Amendments Banning Same-Sex Marriage (2004)**

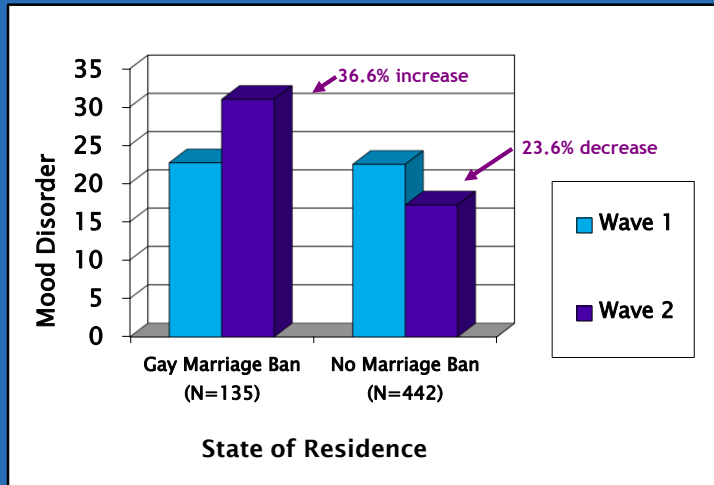


- Red = States passing constitutional amendments
- Blue = States not passing constitutional amendments

NESARC (2001-2005)



## LGB Adults Living in States that Banned Same-Sex Marriage Experienced Increase in Mood Disorders

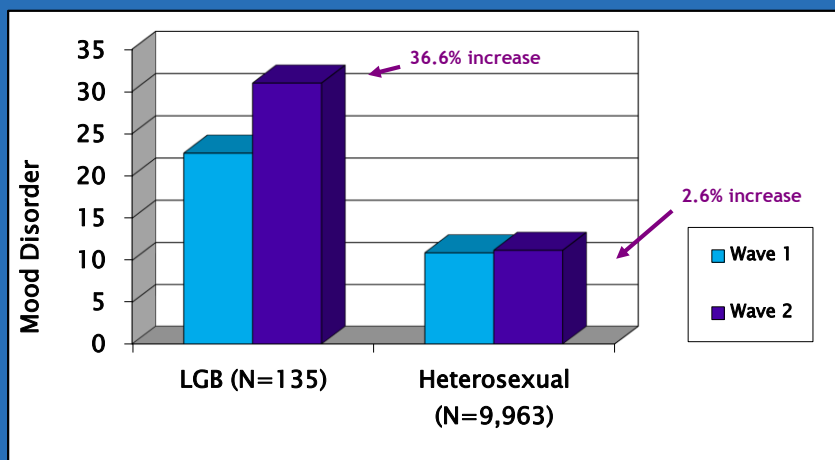


AOR = 1.67 (95% C.I. 1.01, 2.77)

AOR = 0.69 (95% C.I., 0.47, 1.01)

Covariates: sex, age, race/ethnicity, SES, marital status

## Effect of Marriage Bans Specific to LGB Adults



AOR = 1.67 (95% C.I. 1.01, 2.77)

AOR = 1.03 (95% C.I. 0.93, 1.15)

Covariates: sex, age, race/ethnicity, SES, marital status

## **Approach #2b:** **Repeated Cross-Sectional Panel Data with State Fixed Effects**

JAMA Pediatrics | Original Investigation

### **Difference-in-Differences Analysis of the Association Between State Same-Sex Marriage Policies and Adolescent Suicide Attempts**

Julia Raifman, ScD; Ellen Moscoe, MA; S. Bryn Austin, ScD; Margaret McConnell, PhD

## **Approach #3:** **Capitalize on Unique Population-Level Reductions in Structural Stigma**

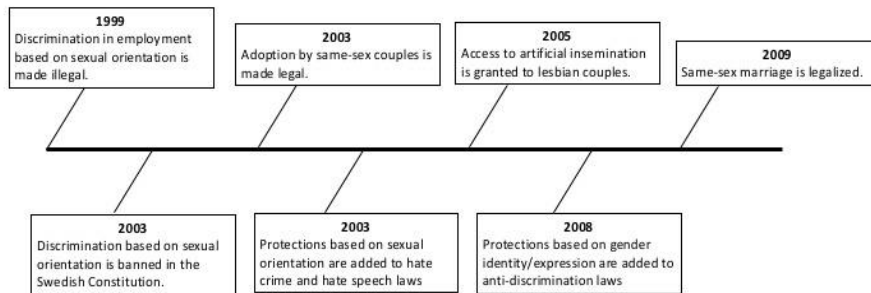
### **Societal-Level Explanations for Reductions in Sexual Orientation Mental Health Disparities: Results From a Ten-Year, Population-Based Study in Sweden**

Mark L. Hatzenbuehler  
Columbia University

Richard Bränström  
Karolinska Institutet

John E. Pachankis  
Yale School of Public Health

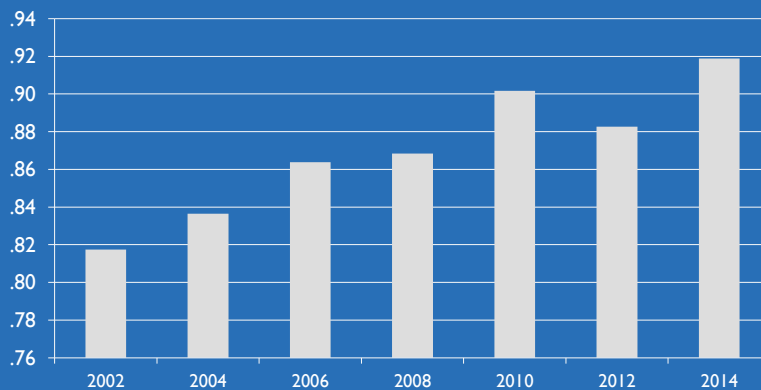
## Structural Stigma in Sweden: Laws



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## Structural Stigma in Sweden: Attitudes

Percent agreeing or strongly agreeing: "Gays and lesbians should be free to live life as they wish."



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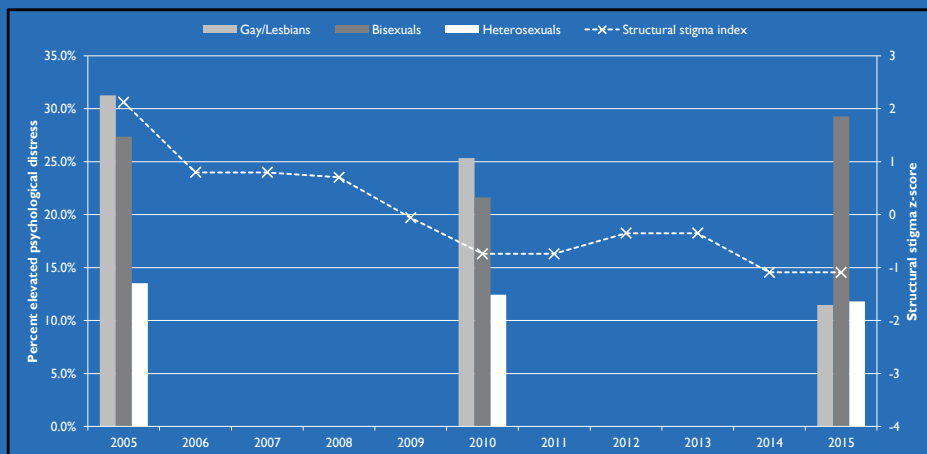
## Data Source

### Swedish National Public Health Survey (2005-2015)

- In 2005, 2010, and 2015, population-based health surveys were collected of the general population of Sweden, ages 16-84 (N=24,819; N=675 LGB)
- Proportion of respondents endorsing LGB identity remained stable over the ten-year period (men: 2.1-2.3%; women: 2.2-2.9%)

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## Reduction in Sexual Orientation Disparity in Psychological Distress Following Declines in Structural Stigma



\*Interaction between year and sexual orientation: Wald  $\chi^2=11.14$ ;  $p<0.01$ . 2005: AOR=2.78 (1.48, 5.24)  
Covariates: Age, income, country of birth, relationship status, urbanicity. 2015: AOR=0.77 (0.39, 1.52)

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## **Approach #4: Laboratory Designs to Test Potential Mechanisms Linking Structural Stigma and Health**

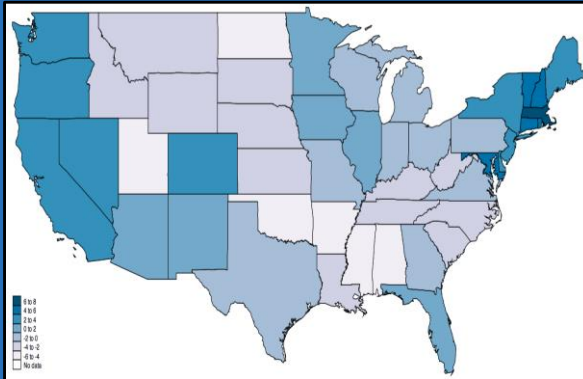
### **Structural Stigma and Hypothalamic–Pituitary–Adrenocortical Axis Reactivity in Lesbian, Gay, and Bisexual Young Adults**

Mark L. Hatzenbuehler, Ph.D. • Katie A. McLaughlin, Ph.D.

## **Participants**

- 74 LGB young adults from 24 states
- Age:  $M=23.68$ ,  $SD=4.12$
- 54% female
- 57% lesbian/gay
- 60% non-White
- Told purpose of study was to “understand connections between daily experiences, your bodily activity, and health”

## Structural Stigma Measure



- Lower scores (lighter blue) indicate higher structural stigma
- Ranges from low of -4.46 (Mississippi) to 7.90 (Massachusetts)

- Density of same-sex partner households (Census)
- Proportion of GSAs in public high schools (GLSEN)
- 5 state-level policies (e.g., hate crimes, ENDA, same-sex marriage)
- Composite index of attitudes from 41 national opinion polls (Lax & Phillips, 2009)
- Factor Analysis (loadings range from .79 to .97)

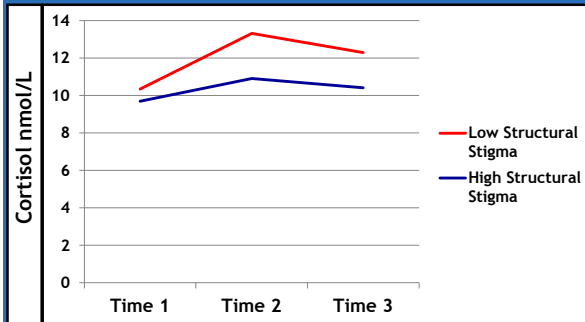
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## Procedure

- Trier Social Stress Test (Kirschbaum et al., 1993)
  - 5-minute speech (identity-relevant topic) in front of 2 evaluators (confederates), followed by 5-minute math task
  - Collect neuroendocrine samples (cortisol) before, during, and after speech and math tasks

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## Structural Stigma Associated with Blunted Cortisol Reactivity to Trier Social Stress Test



- Blunted cortisol response also observed in:
  - Youths exposed to extreme life stressors (e.g., childhood maltreatment; Carpenter et al., 2007)
  - Individuals with PTSD and other forms of severe trauma (e.g., Yehuda et al., 2000)
- Stress of growing up in high structural stigma environments may exert biological consequences that are similar to other chronic life stressors

Cortisol Area Under Curve (AUC) for low structural stigma: adjusted  $M=124.68$

Cortisol AUC for high structural stigma: adjusted  $M=62.68$

Covariates: sex, age, race, waking time, smoking, exercise, caffeine use, perceived stigma

## A Note on Establishing Causal Inferences Regarding the Structural Stigma-Health Relationship

- Triangulating evidence across multiple methods, measures, outcomes, and independent research teams
- Documenting specificity of findings to the stigmatized group (i.e., LGBT populations) and not the non-stigmatized group
- Controlling for potential individual- and structural-level confounders to rule out spurious associations
- Conducting falsification tests to show structural stigma does not predict outcomes it shouldn't theoretically influence
- Addressing plausible alternative explanations (e.g., differential mobility by health status)

## Future Directions for Structural Stigma and LGBT Health Disparities among Youth

### Advancing Research on Structural Stigma and Sexual Orientation Disparities in Mental Health Among Youth

Mark L. Hatzenbuehler

### Structural Stigma: Research Evidence and Implications for Psychological Science

Mark L. Hatzenbuehler  
Columbia University

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## Future Directions for Structural Stigma and LGBT Health Disparities among Youth

- Test generalizability of structural stigma to transgender youth

### Individual- and Structural-Level Risk Factors for Suicide Attempts among Transgender Adults

Amaya Perez-Brumer, MSc<sup>1</sup>, Mark L. Hatzenbuehler, PhD<sup>1</sup>, Catherine E. Oldenburg, MPH<sup>2</sup>, and Walter Bockting, PhD<sup>3,4</sup>

*Behav Med.* 2015 ; 41(3): 164–171.

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## Future Directions for Structural Stigma and LGBT Health Disparities among Youth

- Adopt a life-course approach to the study of structural stigma

### **Structural Stigma and Cigarette Smoking in a Prospective Cohort Study of Sexual Minority and Heterosexual Youth**

Mark L. Hatzenbuehler, Ph.D. • Hee-Jin Jun, Sc.D. •  
Heather L. Corliss, M.P.H., Ph.D. • S. Bryn Austin, Sc.D.

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## Future Directions for Structural Stigma and LGBT Health Disparities among Youth

- Develop and validate new measures of structural stigma

### **Neighborhood-Level LGBT Hate Crimes and Bullying Among Sexual Minority Youths: A Geospatial Analysis**

Mark L. Hatzenbuehler, PhD  
Dustin Duncan, ScD  
Renee Johnson, PhD

### **Religious Climate and Health Risk Behaviors in Sexual Minority Youths: A Population-Based Study**

Mark L. Hatzenbuehler, PhD, John E. Pachankis, PhD, and Joshua Wolff, PhD

### **Protective School Climates and Reduced Risk for Suicide Ideation in Sexual Minority Youths**

Mark L. Hatzenbuehler, PhD, Michelle Birkett, PhD, Aimee Van Wagenen, PhD, and Ilan H. Meyer, PhD

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## Future Directions for Structural Stigma and LGBT Health Disparities among Youth

- Examine structural stigma within the context of intersectionality

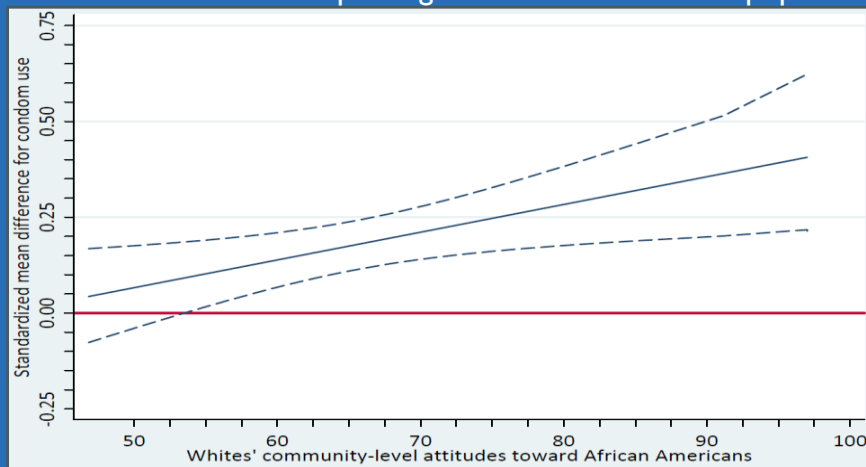
### Anti-LGBT and Anti-immigrant Structural Stigma: An Intersectional Analysis of Sexual Minority Men's HIV Risk When Migrating to or Within Europe

*John E. Pachankis, PhD,\* Mark L. Hatzenbuehler, PhD,† Rigmar C. Berg, PhD,‡ Percy Fernández-Dávila, PhD,§ Massimo Mirandola, PhD,|| Ulrich Marcus, MD,¶ Peter Weatherburn, MSc,# and Axel J. Schmidt, MD#\*\**

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## Future Directions for Structural Stigma and LGBT Health Disparities among Youth

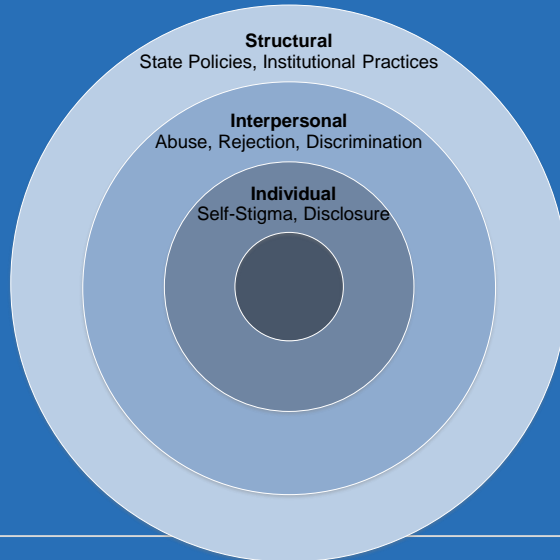
- Evaluate whether structural stigma impairs efficacy of psychological interventions aimed at improving mental health of LGBT populations



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Reid et al., 2014

## Conclusions (I): Structural Stigma as a Risk Indicator for Poor Health



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## Conclusions (II): Multi-Measure, Multi-Method, Multi-Group, Multi-Outcome Approach to Studying Structural Stigma and Health

- Measures of structural stigma
  - Social policies (Hatzenbuehler et al., 2009; 2010; 2012; 2017)
  - Social attitudes (Hatzenbuehler et al., 2014; in press)
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  - Sexual minorities (Hatzenbuehler et al., 2009; 2010; 2012)
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  - Psychiatric morbidity, suicide attempts (Hatzenbuehler et al., 2009; 2011)
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  - Premature mortality (Hatzenbuehler et al., 2014)

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## Conclusions (III): Using Research on Structural Stigma to Inform Public Policies

### IN THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

KRISTIN M. PERRY, et al.,  
*Plaintiffs-Appellees*,  
v.  
ARNOLD SCHWARZENEGGER, et al.,  
*Defendants*,  
and  
DENNIS HOLLINGSWORTH, et al.,  
*Defendants-Intervenors-Appellants*.

On Appeal From The United States District Court  
For The Northern District Of California  
No. CV-09-02292 VRW  
The Honorable Vaughn R. Walker

### IN THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF  
COLORED PEOPLE, MARICOPA COUNTY BRANCH, NATIONAL  
ASIAN PACIFIC AMERICAN WOMEN'S FORUM

*Plaintiffs-Appellants*

vs.

TOM HORNE, Attorney General of Arizona, in his official capacity,  
ARIZONA MEDICAL BOARD and LISA WYNN, Executive Director of  
the Arizona Medical Board, in her official capacity,

*Defendants-Appellees*

## Acknowledgments

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- National Institute of Mental Health (R01 MH112384, R01 MH109413)
- Centers for Disease Control and Prevention (R01 CE002913)
- William T. Grant Scholars Award
- Swedish Research Council for Health, Working Life, and Welfare

### Collaborators

- Bruce Link, Jo Phelan (University of California-Riverside)
- Katherine Keyes, Deborah Hasin (Columbia)
- Kate McLaughlin (University of Washington)
- Dustin Duncan (New York University)
- John Pachankis (Yale University)
- Stephen Russell (University of Texas at Austin)