

**STUDENT NAME:** Nicole Pepper

**COMMITTEE CHAIRPERSON:**

María Luisa Zúñiga, PhD - School of Social Work, San Diego State University

**COMMITTEE MEMBERS:**

Heather Corliss, PhD - School of Public Health, San Diego State University

Tommi Gaines, DrPh - Department of Medicine, University of California, San Diego

Mark Reed, PhD – School of Public Health, San Diego State University

Davey Smith, MD, MAS - Department of Medicine, University of California, San Diego

**TITLE OF DISSERTATION:**

Use of Alkyl Nitrite Inhalants (Poppers) among People with and At-Risk for HIV

**DATE OF DEFENSE:** June 4, 2021

**TIME OF DEFENSE:** 11AM to 1PM

**LOCATION OF DEFENSE:** Zoom

**ABSTRACT**

Statement of Problem: Alkyl nitrites (poppers) are potent short-acting inhalants commonly used by men who have sex with men (MSM). Despite their association with HIV risk, what is empirically established is not well understood. The aim of this dissertation is to describe available literature on the recreational use of poppers in the U.S. in the context of HIV, identify research gaps, contribute to a better understanding of biological impacts of popper use on MSM with HIV, qualitatively describe contextual factors impacting HIV care among young MSM with HIV, and provide recommendations for clinical care and future research.

Methods: *Chapter 1* - A scoping review on the recreational use of poppers as a risk factor for people living with and at-risk for HIV in the U.S. was conducted using the Social Ecological Model. Studies were included if they reported results on the recreational use of poppers, were related to HIV or HIV risk, were published 2001-2021, and were conducted in the U.S. *Chapter 2* - In this secondary analysis, total HIV DNA from peripheral blood mononuclear cells was measured. Non-parametric rank analysis of covariance (ANCOVA) was conducted on the dependent variable (HIV DNA), with group (no substances versus poppers) as the independent variable and alcohol, tobacco, and cannabis use as covariates. *Chapter 3* - In-depth, semi-structured interviews with young MSM (18-30 years) living with HIV were conducted to explore individual, social and environmental contexts of popper use influencing HIV care outcomes.

Summary of Findings: Poppers are widely used by MSM, although use varies significantly in this heterogeneous group. Existing research overwhelmingly supports the relationship between poppers and HIV risk, however the impact of popper use on the HIV care continuum remains not well established. Concurrent use of poppers and other drugs is common. Among people who use poppers, perceived risk of use is low and education is needed and desired. Clinicians caring for MSM and people with HIV are well situated to assess and address popper use. Implications for clinical care, public health, policy, and future research are discussed.