

## Sigma's 29th International Nursing Research Congress

### Evidence-Based Curriculum and Its Impact on Risky Behaviors and Stress Among Hispanic College Students

**Marivic B. Torregosa, PhD, RN, FNP<sup>1</sup>**

Marcus Antonius Ynalvez, PhD<sup>2</sup>

Christopher Craddock, PhD<sup>3</sup>

Nandita Chaudhuri, PhD<sup>4</sup>

David Cabrera, MPA, BA (PoliSci)<sup>4</sup>

Maria del Rosario Benavides, MA<sup>5</sup>

Dora Maria Ramirez, BS<sup>3</sup>

*(1)College of Nursing, Texas A&M International University, Laredo, TX, USA*

*(2)Department of Social Sciences, Texas A&M International University, Laredo, TX, USA*

*(3)SCAN, Laredo, TX, USA*

*(4)Public Policy Research Institute, Texas A&M University, College Station, TX, USA*

*(5)College of Nursing and Health Sciences, Texas A&M International University, Laredo, TX, USA*

**Purpose:** HIV/AIDS is a global epidemic that claims about 18,000 lives in the United States (US) annually. Substance abuse, most particularly intravenous drug (ID) use, is linked to HIV infection, which accounts for 12 percent of new HIV cases. In 2010, Hispanics accounted for 21% of new HIV infections and 25% of these cases were ID users. This report is a cause for alarm as Hispanics are the fastest growing US minority group yet they encounter increasing health disparities in the US health care system compared to other ethno-racial groups. Among Hispanics, HIV diagnosis and treatment are delayed due to poor understandings of the US health care system, lack of knowledge about eligibility requirements to receive care, fear about divulging immigration status, lack of awareness of the high mortality rate from the HIV/AIDS, and stigmatization attached to HIV/AIDS. Reports indicate that US born Mexican Americans have higher rates of alcohol dependence than those born outside of the US. Mexican Americans are less likely to drink but when they do drink, they tend to consume more alcohol in one sitting. The incidence of liver cirrhosis is highest among US born Mexican-Americans and Native Americans. In particular, Mexican-Americans residing in borderlands near Mexico are at high risks for binge drinking behaviors. The legal drinking age in Mexico is 18 compared to 21 in the US and the geographic proximity of Mexico to the US may encourage the youth to buy alcohol and get drunk across the US-Mexico border. Increased binge drinking has been reported among residents of colonias. Colonias are communities in the borderlands where local government regulation is minimal. Over the years, bar establishments have also increased in border towns contributing to alcohol-related risky behaviors among young residents in the US-Mexico border regions.

Literature points to the linkage between bicultural stress and risky behaviors among recent Hispanic immigrants. Adapting to the host culture while retaining one's original cultural heritage may lead to bicultural stress. Stress often results from attempts to fit in with the host culture while at the same time trying to stay true to the values of one's original culture. Navigating back and forth between cultures could lead to bicultural stress. The navigation between cultures requires the individual to constantly adjust to both cultures to gain acceptance. Non-acceptance may result to feelings of discrimination from members from either cultures. Perceptions of discrimination may predispose adolescents to psychological vulnerabilities as they attempt to seek and establish their self-identity at a young developmental stage. Identity confusion was found to be associated with alcohol abuse and cultural stress among recently immigrated Hispanic youth. Bicultural stress including the acculturation process were also linked to greater risk for depression and cigarette use among recently immigrated Hispanic youth. Acculturation may lead to poor mental health and substance abuse among recent immigrants; greater exposure to the American society was found associated with alcohol and drug use among immigrants. Perceptions of discrimination from the environment, overtime, could subsequently lead to alcohol problems and post-traumatic stress disorder symptoms.

Given the challenges and vulnerabilities immigrants face, evidence-based interventions to reduce risks are much needed. While many intervention studies have been conducted in the past, few of these were conducted among high-risk young Hispanics residing in areas along the US-Mexico border. Thus, the purpose of this study was to examine effect of an evidence-based programming on the risky behaviors and on perceived stress among young Hispanic residents in a US southern border city.

**Methods:** Hispanic college students ages 18 to 24 were recruited from a Hispanic-serving institution located in a US southern border city. An epidemiological study using a permuted blocks design with of equal sizes with the treatment and control group was used. Data was collected at three points for both groups: (i) baseline, (ii) completion of Coping with Work and Family Stress 12-module intervention (exit), and (iii) at 3 months post intervention completion (follow-up). A total of n = 145 participants were enrolled in the treatment group, n = 62 were enrolled in the control group. The control group did not receive any program curriculum. The outcome variables are: [1] risky behaviors defined as substance use of cigarette/tobacco, alcohol, and other forms of illicit drugs, [2] refusal and consensual skills, and [3] perception of stress. The main independent variable was the standardized programming, Coping with Work and Family Stress, a standardized curriculum delivered to the treatment group in 6 weeks (i.e., control versus treatment). TAMU Institutional Review Board (IRB) approval was obtained; participation was voluntary; monetary incentives were provided to all participants. Analysis of variance, chi-square, and Fisher's Exact tests were used to determine statistical significance and test our hypotheses. All p values below the 5% type-1 error rate were deemed statistically significant.

**Results:** Results indicate that the intervention group benefited from participating in the program. Differences in overall scores between the intervention and the control groups were small, but some conclusions could be made regarding the impact of the program towards risky behaviors. Statistical difference in refusal and consensual skills was observed in the treatment group across time, indicating that the program most likely affected participants' behaviors positively. Interestingly, 3-month follow-up data showed many treatment participants engaged in substance use in slightly higher numbers than the control group; however, the former understood the risks of such behaviors in greater numbers. The treatment group participants showed a large increase in their ability to cope with stress after completing the curriculum compared to the control group. Almost all of the items during both exit and 3-month follow-up surveys were significant at the 1% level of significance indicating reduced stress levels. The control group, on the other hand, had several items during exit surveys that were significant in a negative direction i.e. increased stress levels. It appears that the control group members did not exhibit the ability to cope with stress as well as the treatment group.

**Conclusion:** The programmatic intervention had statistically significant positive effects on participants' sexual behaviors, substance abuse, and stress. The intensive, culturally-sensitive approach to prevention counseling had a positive impact on the risky behaviors and stress levels of participants both during and after completing the program.

---

**Title:**

Evidence-Based Curriculum and Its Impact on Risky Behaviors and Stress Among Hispanic College Students

**Keywords:**

Hispanics, health disparities and risky behaviors and stress

## References:

- Borges, G., Cherpitel, C. J., Orozco, R., Zemore, S. E., Wallisch, L., Medina-Mora, M.-E., & Breslau, J. (2016). Substance Use and Cumulative Exposure to American Society: Findings From Both Sides of the US-Mexico Border Region. *American Journal of Public Health, 106*(1), 119-127. doi:10.2105/AJPH.2015.302871
- Cheng, H.-L., & Mallinckrodt, B. (2015). Racial/ethnic discrimination, posttraumatic stress symptoms, and alcohol problems in a longitudinal study of Hispanic/Latino college students. *Journal of Counseling Psychology, 62*(1), 38-49. doi:10.1037/cou0000052  
10.1037/cou0000052.supp (Supplemental)
- Mills, B. A., & Caetano, R. (2016). Alcohol Use and Related Problems Along the United States-Mexico Border. *Alcohol Research: Current Reviews, 38*(1), 79-81 73p.
- Oshri, A., Schwartz, S., Unger, J., Kwon, J., Des Rosiers, S., Baezconde-Garbanati, L., . . . Szapocznik, J. (2014). Bicultural Stress, Identity Formation, and Alcohol Expectancies and Misuse in Hispanic Adolescents: A Developmental Approach. *Journal of Youth & Adolescence, 43*(12), 2054-2068 2015p. doi:10.1007/s10964-014-0171-2
- Woolard, R., Liu, J., Parsa, M., Merriman, G., Tarwater, P., Alba, I., . . . Cherpitel, C. J. (2015). Smoking is associated with increased risk of binge drinking in a young adult Hispanic population at the US-Mexico border. *Substance Abuse, 36*(3), 318-324. doi:10.1080/08897077.2014.987945

## Abstract Summary:

To present the results of an evidence-based intervention on the risky behaviors and perceived stress among young Hispanic residents in a US southern border city.

## Content Outline:

Introduction - Discuss the problem and significance of the study. For example, discuss the alarming rate of HIV/AIDS among Hispanics in the US, and the known causes of health disparities faced by this minority group.

Theoretical Framework - discuss current literature regarding factors associated with risky behaviors and stress among recent Hispanic immigrants. Present geographic, political, and socio-cultural issues in US border lands that render residents vulnerable to risky behaviors and HIV/AIDS.

Method- Present research and sampling designs used in this study. Also, IRB, participant recruitment, incentives, data collection method, measurement of outcome and dependent variables, and statistical analyses used will be presented.

Results: Most important results presented in graphs and tables will be discussed.

Conclusion: Implications towards policies that support individual and systemic academic/university policies to improve preventative measures for stress and substance abuse, HIV, hepatitis infection among young Hispanic residents in US southern border towns will be presented.

First Primary Presenting Author

### **Primary Presenting Author**

Marivic B. Torregosa, PhD, RN, FNP  
Texas A&M International University  
College of Nursing  
Assistant Professor  
Laredo TX  
USA

**Professional Experience:** 2012-present - Assistant Professor - Tenure Track, Texas A&M International University, Laredo, TX 2017- Director of MSN Programs, Texas A&M International University, Laredo, TX 2004-Present - Family Nurse Practitioner, Recto Pediatrics, Laredo, TX

**Author Summary:** Dr. Marivic Torregosa is an assistant professor at the College of Nursing at Texas A&M International University in Laredo, Texas, U.S.A. Currently, she is the program director of the TAMIU-SCAN Prevention Project, funded by Substance Abuse and Mental Health Services Administration (SAMHSA).

Second Author

Marcus Antonius Ynalvez, PhD  
Texas A&M International University  
Department of Social Sciences  
Associate Professor  
Laredo TX  
USA

**Professional Experience:** Marcus Antonius Ynalvez, Ph.D. (Evaluation Statistician) is an Associate Professor of Sociology. His research is in the areas of: (i) sociology of science, and (ii) medical sociology. In the former, Dr. Ynalvez focuses on how socio-cultural context configures the dynamics of collaborations, professional networking, doctoral mentoring, and productivity in research institutions in developed and developing countries of the non-West. Dr. Ynalvez has directed and conducted studies in scientific research institutions in Japan, Singapore, Kenya, and the Philippines. In the latter, his studies focus on the social determinants of vaccine uptake, and on how emerging technologies affect health outcomes such as child obesity. He has received training in advanced quantitative methodologies at the Inter-University Consortium of Political and Social Research at the University of Michigan, and is the statistician of TAMIU's Si Texas Juntos grant, and of the TAMIU-SCAN HIV prevention project.

**Author Summary:** I am an associate professor of sociology and director of the sociology program at Texas A&M International University. He is a research methodologist, statistician, and social research expert.

Third Author

Christopher Craddock, PhD  
SCAN  
Vice President  
Laredo TX  
USA

**Professional Experience:** Vice president of SCAN (Serving Children and Adults in Need), a non-profit organization. Has been awarded with numerous federal grants to address needs in the community.

**Author Summary:** He is our community collaborator and partner of the TAMIU-SCAN Prevention Project. He was part in the planning, design, and implementation of this federally funded project.

Fourth Author

Nandita Chaudhuri, PhD  
Texas A&M University  
Public Policy Research Institute  
Research Scientist  
College Station TX  
USA

**Professional Experience:** She is a research scientist at the Public Policy Research Institute (PPRI) at Texas A&M University, a leading interdisciplinary government and social policy research organization. She is the evaluator of this project.

**Author Summary:** She is a research scientist at the Public Policy Research Institute (PPRI) at Texas A&M University - a leading interdisciplinary government and social policy research organization. Social problems related to the areas of government, education, public health, substance abuse, workforce and employment, aging, and child and family well-being provide the substantive focus of PPRI's work.

Fifth Author

David Cabrera, MPA, BA (PoliSci)

Texas A&M University  
Public Policy Research Institute  
Assistant Research Specialist  
College Station TX  
USA

**Professional Experience:** David earned his Bachelor's degree from Trinity University in political science and his Master's degree from the Bush School of Government and Public Service at Texas A&M. David is currently working on criminal justice and education research.

**Author Summary:** David is an assistant research specialist at PPRI. PPRI is a leading policy research group at Texas A&M University engaged in survey administration, statistical analysis, evaluation, and systems management.

Sixth Author

Maria del Rosario Benavides, MA

Texas A&M International University  
College of Nursing and Health Sciences  
Project Manager  
Laredo TX  
USA

**Professional Experience:** Ms. Benavides has a masters in sociology and a minor in criminal justice. She has worked in projects focused on human trafficking and scientific productivity.

**Author Summary:** Ms. Benavides has been a project manager for several grants including the TAMIU-SCAN Prevention Project. She has worked on projects including scientific ambidexterity and human trafficking.

Seventh Author

Dora Maria Ramirez, BS  
SCAN  
Project Director  
Laredo TX  
USA

**Professional Experience:** Ms. Ramirez is a Program Director of SCAN a non-profit organization in which the mission of the organization is to foster the healthy development of individuals through trauma-informed empowerment opportunities that are rooted in the community; utilize evidence-based

interventions and best practices.

**Author Summary:** Ms. Ramirez is a Program Director of SCAN, a nonprofit organization in Laredo, Texas. She has been a team leader in the implementation of evidence-based interventions of evaluation grants awarded to SCAN.