

PIRE's Expertise and Capacities in Marijuana-Related Projects

PIRE has a growing portfolio of research and contract work in marijuana use and harms, and interventions targeting a variety of key populations, including youth, young adults, and racial/ethnic minorities. We are working on projects addressing the impact of marijuana-related policy changes, including medical marijuana policies and use legalization, and the provision of training/technical assistance and evaluation. Below, we indicate which PIRE staffmembers have marijuana-related expertise, content areas of focus, and specific projects and products.

PIRE Staff Experts in Marijuana Use and Interventions, Policies, Training/Technical Assistance, and Evaluation

- Allan Cohen
 - Marijuana policies, training and technical assistance
- Pamela Cupp
 - Media campaigns
- Karen Friend
 - Impact of medical marijuana policies
 - Youth use and evaluation of evidence-based interventions
- Bridget Freisthler
 - Impact of medical marijuana policies
- Bettina Friese
 - Youth use and interventions
 - Impact of medical marijuana policies
- Andrew Gluck
 - Use among racial minorities
 - Evaluation of interventions
- Paul Gruenewald
 - Impact of medical marijuana policies
- Mark Johnson
 - Marijuana use and driving
- Tara Kelly-Baker
 - Impact of marijuana use and legalization on driving-related outcomes
- John Lacey
 - Impact of marijuana use and legalization on driving-related outcomes
- Juliet Lee
 - Use among minorities, particularly Asians
- Roland Moore
 - Effects of marijuana decriminalization
 - Stigma related to medical marijuana use
- Robin Pollini
 - Impact of marijuana use and legalization on driving-related outcomes
- Ted Miller
 - Cost-benefit/economic analyses and marijuana use

Content Areas

- Marijuana use/policies and driving
- Interventions to prevent youth and young adult/college student marijuana use and related harms
- Interventions to reduce marijuana use and harms among various racial/ethnic groups, including African-Americans and Asians
- Impact of medical marijuana policies
- Impact of legalization policies
- Evaluation of SAMHSA programs
- Cost-benefit/economic analyses
- Media campaigns
- Training, technical assistance, and evaluation
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Grants/Contracts and Products

Marijuana Use and Interventions Targeting Youth

Project: *Addressing High School Marijuana Use in Context of Increasing Social Acceptance (grant)*

Principal Investigator: Bettina Friese

Funding Agency: National Institute on Drug Abuse (NIDA)

Period of Performance: 07/01/2014 – 04/30/2017

Award: \$450,000 (annual direct costs)

Abstract: This feasibility study is developing an intervention, using a combination of traditional media and mobile technologies to reduce marijuana use among high school students by increasing knowledge and concern regarding high-risk use and raising awareness of the inconsistency of such behaviors with personal autonomy and agency. Specific aims are (1) adapting previously-tested marijuana communication approaches for use in high schools; (2) testing feasibility of use of smartphone technology to deliver appropriate messages proximate to time of behavioral decision; (3) conducting an efficacy test regarding potential of such a campaign to reduce the prevalence of use and quantity and frequency of marijuana use among high school students, via increasing knowledge and concern regarding high-risk use, and the inconsistency of such behaviors with personal autonomy; (4) assessing whether these approaches have a positive effect on alcohol-use related outcomes. The intervention will be implemented in a total of six schools in the San Francisco Bay Area using a cross-over design. This feasibility study explores the use of smartphone technology and text messaging as a way to extend the effectiveness of traditional school-based media approaches and disseminate prevention messages to youths at a time and place proximal to behavioral decision regarding marijuana use. This media-based approach does not require classroom or teacher time, making it viable for widespread adoption in an era of growing demands for school academic performance and decreased available school resources for prevention.

Products

Friese, B. & Grube, J. (2013). Legalization of Medical Marijuana and Marijuana Use among Youths. *Drugs: Education, Prevention and Policy*, 20(1), 33-39. <http://www.ncbi.nlm.nih.gov/pubmed/23641127>

Friese, B., Grube, J., & Moore, R. (*in review*). Where do teens obtain and use marijuana? A qualitative study of adolescents in California.

Friese, B. & Grube, J. (*in review*). Is there a relationship between the legalization of medical marijuana and youths' beliefs about marijuana?

Friese, B. (*in review*). Living in the emerald triangle: Relationship between teen marijuana use and living in areas of high marijuana cultivation.

Friese, B. (*in review*). Is marijuana even a drug?" A qualitative study of how adolescents in California perceive marijuana.

Marijuana Use/Policies and Driving

Project: *2007 Roadside Survey of Alcohol and Drugged Driving and Drug Crash Risk Study (contract)*

Funding Agency: National Highway Transportation Safety Administration (NHTSA)

Project Director: John H. Lacey

Co-Investigator: Tara Kelley-Baker

Period of Performance: 09/14/2006 to 06/30/2010

Award: \$10,629,457 (total for both projects)

Abstract: The overall objective of this study was to estimate the prevalence of alcohol-positive and drug-involved driving on our nation's roadways. This study covered a national roadside survey to provide the first estimate using biological specimens of the prevalence of the following: (1) drivers at various BACs (blood alcohol concentrations), (2) drivers with the presence of various (over-the-counter, prescription, and illegal) drugs in their system, and (3) drivers with alcohol and other drugs in their system. Over 9,000 drivers provided breath samples, along with 7,500 participants who provided oral fluid, and nearly 4,000 participants who provided blood samples, each of which are subsamples of those who provided a breath sample. This study was unique in its scope, size, generalizability, and use of biological measures rather than self-report. Analyses included alcohol trend analyses using data from previous national roadside surveys (which had only included alcohol). A further component of this project was to collect the same types of information from drivers involved in crashes and matched controls, in order to assess the risk of crash-involvement associated with driver alcohol and other drug use.

Products (selected sample)

Johnson, M. B., Kelley-Baker, T., Voas, R., & Lacey, J. H. (2012). The prevalence of cannabis-involved driving in California, *Drug and Alcohol Dependence*

Bergen, G., Yao, J., Shults, R. A., Romano, E., & Lacey, J. H. (2014). Characteristics of designated drivers and their passengers from the 2007 National Roadside Survey in the United States, *Traffic Injury Prevention*

Kelley-Baker, T., Moore, C., Lacey, J.H., & Yao, J. (2014). Comparing drug detection in oral fluid and blood: Data from a national sample of nighttime drivers, *Traffic Injury Prevention*

Romano, E., Torres-Saavedra, P., Voas, R.B. & Lacey, J.H. (2014). Drugs and alcohol: Their relative crash risk, *Journal of Studies on Alcohol and Drugs*.

Kelley-Baker, T., Moore, C., Lacey, J.H., & Yao, J. (2013). Comparing drug detection in oral fluid and blood: Data from a national sample of nighttime drivers, *Traffic Injury Prevention*

Voas, R. B., Lacey, J. H., Jones, K., Scherer, M., & Compton, R. (2013). Drinking drivers and drug use on weekend nights in the United States, *Drug and Alcohol Dependence*

Project: *2013 Roadside Survey of Alcohol and Drugged Driving and Washington State Roadside Survey (contract)*

Funding Agency: National Highway Transportation Safety Administration (NHTSA)

Project Director: John H. Lacey

Co-Investigator: Tara Kelley-Baker

Period of Performance: 9/27/2011 – 9/26/2015

Award: \$10,484,444 (total for both projects)

Abstract: The overall objective of this project was to replicate the 2007 National Roadside Survey, to provide an updated estimate of the prevalence of alcohol-positive and drug-involved drivers on our nation's roadways. These data provide an estimate in a different point in time and, thus, enable the first trend analyses involving

biological specimens of drug-involved driving. An additional component of this study is an in-depth examination of impaired-driving issues in states that are legalizing marijuana. Three to four waves of data collection are taking place in WA State.

Project: *Field Test of Oral Fluid Screening Devices (contract)*

Principal Investigator: John H. Lacey

Co-Investigator: Tara Kelley-Baker

Funding Agency: National Highway Transportation Safety Administration (NHTSA)

Period of Performance: 11/08/2013 – 05/07/2015

Award: \$836,166.00 (total)

Abstract: This pilot project is examining the effect of real-time drug screening on enforcement and prosecution of drug-impaired drivers in an effort to present an independent test of the accuracy and reliability of two portable devices that screen for marijuana and other drugs. It is being conducted in four jurisdictions within California.

Project: *Safe Transportation Research and Education Center (SafeTREC): 2012 California Roadside Survey of Nighttime Weekend Drivers' Alcohol and Drug Use (contract)*

Principal Investigator: John H. Lacey

Co-Principal Investigator: Tara Kelley-Baker

Funding Agency: SafeTREC / UC Berkeley

Period of Performance: 10/01/2011 – 09/30/2012

Award: \$650,000

Abstract: This study was the first California statewide roadside survey of nighttime weekend drivers' alcohol and drug Use. It was the first state-level roadside survey of prevalence of both alcohol and drugs. It was also the first state survey to collect prevalence data on the use of synthetic marijuana. It was modeled on data collection procedures used in the "2007 National Roadside Survey of Alcohol and Drug Use by Drivers," sponsored by the National Highway Traffic Safety Administration (NHTSA).

Project: *Marijuana Decriminalization and its Effects on Drug-involved Driving in California (grant)*

Principal Investigator: John Lacey

Co-Investigator: Robin Pollini

Funding Agency: Robert Wood Johnson Foundation

Period of Performance: 2/1/2013 – 5/31/2014

Award: Approximately \$150,000 (total)

Abstract: Like many drugs, marijuana has the potential to significantly impair driving and increase the risk of motor vehicle crashes. A growing number of states are decriminalizing and, more recently, legalizing marijuana possession; yet few if any studies have examined whether these laws contribute to an increase in marijuana use among drivers or impact traffic safety. California passed a marijuana decriminalization law (Senate Bill 1449) in 2010, which went into effect on January 1, 2011. The primary purpose of this study was to determine whether marijuana decriminalization in California was associated with an increase in the prevalence of marijuana-positive driving. We addressed this question using data from 2010 and 2012 roadside surveys conducted by PIRE in California. Secondly, we explored whether California's decriminalization law was associated with (1) an increase in fatal crashes involving marijuana, and/or (2) changes in the frequency of crashes of lesser severity. We explored these questions using data on fatal crashes from the U.S. Department of Transportation's Fatality Analysis Reporting System (FARS) and data on non-fatal crashes from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS). Given the current dearth of information on marijuana-related laws and driving, our study provided critical information on whether the liberalization of marijuana laws

had any significant effect on driving under the influence of marijuana and marijuana-related crashes. These findings will be particularly timely given that a number of additional states are currently considering marijuana decriminalization and legalization laws.

Products

Pollini, R., Romano, E., Johnson, M., & Lacey, J. (*in review*). The impact of marijuana decriminalization on California drivers. *Drug and Alcohol Dependence*.

Project: *IVDIRM: A New Methodology for Examining Drug and Alcohol Impaired Driving (grant)*

Principal Investigator: Mark Johnson

Co-Investigator: Tara Kelley-Baker

Funding Agency: National Institute on Drug Abuse (NIDA)

Period of Performance: 4/15/14 – 1/31/16

Award: \$1,066,462 (total across all years)

Abstract: The project tests the feasibility of a new methodology – In Vivo Driving Impairment Research Method (IVDIRM). We will recruit regular cannabis users, who also are regular drivers, and install instrumentation in their vehicles that records GPS coordinates and driving performance (vehicle speed, acceleration, swerving, hard breaking, etc.) using 3-axis accelerometers. Participants will drive for a period of one or two weeks. Additionally, participants will agree to drug test themselves (via saliva sample) for each driving trip taken. The hope is to recruit participants who sometimes drive after recently using cannabis, and other times drive having not used cannabis. This will allow within-subject comparisons of driving performance under different levels of recent cannabis use. Moreover, GPS location data will allow within-subject comparisons while on the same road (or type of road).

As part of this grant, a pilot study is being conducted in Colorado. Participants were asked to self-dose with his or her legally-acquired and consumed cannabis project. We tested performance on cognitive and psychomotor tasks as a function of THC concentration.

Cost-Benefit/Economic Analyses

Project: *Preventing Prescription Abuse in the Workplace Training and Technical Assistance Center (contract)*

Project Director: Ted Miller

Funding Agency: SAMHSA/CSAP

Period of Performance: 9/15/11-9/14/16

Award Amount: \$4,000,000 (total)

Abstract: The Prevention of Prescription Abuse in the Workplace Technical Assistance Center (PPAW) Task Order will provide the Substance Abuse and Mental Health Administration (SAMHSA) substantive, technical, and administrative support in achieving the SAMHSA Strategic Initiative #1, "Prevention of Substance Abuse and Mental Illness." Through this initiative, SAMHSA seeks to create communities where individuals, families, schools, faith-based organizations, and workplaces take action to promote emotional health and reduce the likelihood of mental illness, substance abuse, including tobacco, and suicide. In this connection, the Task Order will provide a series of special leadership activities in transferring science-based interventions to workplace services. The PPAW will provide technical assistance and disseminate information concerning public/private sector workplace programs and their related health care providers (e.g., integrated physical and behavioral health). The goal of the Task Order is to provide technical assistance related to the prevention of prescription drug abuse for all employees and their families coming from diverse backgrounds, occupations, and industries including high risk places of work, including young adults in the workplace, youth transitioning to the workplace, and military workplaces. The Task Order is designed to support SAMHSA in strengthening the

approach of workplace prevention specifically in the area of misuse and abuse of prescription drugs for employers, employees, and their families. Many workplaces have used drug testing as one way to prevent drug abuse; however the majority of workplaces employing drug testing (typically not small businesses) do not test for prescription drug misuse or abuse either in a drug test or a health/wellness brief screening or intervention.

Products

More than 2 dozen other products are on Rx drug abuse, including: SAMHSA/CSAP (2015). Workplace issues related to the decriminalization/legalization of marijuana (working paper).

Project: CSAP Data Coordinating Center – Cost-Benefit Analysis (subcontract)

Subcontract Project Director: Ted Miller

Funding Agency: SAMHSA/CSAP (Westat prime)

Period of Performance: 2007 – 2008

Abstract: This DCC-funded study performs benefit-cost analyses of 18 school-based or family-centered youth substance abuse prevention programs. Twelve of those programs delay marijuana initiation. The benefit-cost model and the PIRE meta-analyses underpinning it (W Hansen, J Derzon, et al. Analysis of Magnitude of Effects of Substance Abuse Prevention Programs Included in the National Registry of Effective Programs through 2003: A Core Components Analysis, 2004) estimate program effects on marijuana use and quantify/monetize the associated benefits.

Products

Miller, T., & Hendrie, D. (2008). *Substance Abuse Prevention Dollars and Cents: A Cost-Benefit Analysis*. DHHS Pub. No. (SMA) 07-4298. Rockville, MD: Center for Substance Abuse Prevention, Substance Abuse and Mental Health Services Administration.

Project: California Strategic Prevention Framework State Incentive Grant Cost-Benefit Analysis (subcontract)

Subcontract Project Director: Ted Miller

Funding Agency: SAMHSA (HRSI prime)

Period of Performance: 2013

Award: \$100,000 (total)

Products

Miller, T., & Hendrie, D. (2013). Cost-benefit of substance abuse prevention in California.

Impact of Marijuana Policies

Project: Evaluating the Geography of Medical Cannabis Facilities on Crime, Price and Use (grant)

Principal Investigator: Bridget Freisthler

Funding Agency: National Institute on Drug Abuse (NIDA)

Period of Performance: 2014 – 2019

Award: Approximately \$2,000,000 (annual direct costs)

Abstract: In 1996, California was the first state to pass a Compassionate Use Act which allowed for the legal use of cannabis for medicinal or medical purposes. The current study takes advantage of a natural experiment occurring in Long Beach, Los Angeles, and Sacramento Cities to assess how both the growth of and subsequent reduction in these dispensaries has resulted in changes in crime and cannabis use and dependence over a thirteen-year period. Five specific aims are being tested. (1) Examine whether the density of cannabis dispensaries is related to increases in rates of violent and property crimes; (2) Examine whether the changing

density of cannabis dispensaries is related to similar changes in rates of cannabis dependence and abuse; (3) Determine whether or not neighborhood characteristics (including location and density of other dispensaries) are related to price differences across dispensaries; (4) Investigate whether or not there is greater clustering by patron characteristics consistent with niche theory in high density areas; and (5) Determine whether or not patterns of medical cannabis use correspond to overall health levels and/or diagnosis of medical cannabis patients.

Products

- Freisthler, B. (June 26, 2012). Medical marijuana dispensaries and the local ecology. Paper presented at The Social Ecology of Substance Use: Theories, Models, Methods and Applications satellite meeting of the Research Society on Alcoholism.
- Freisthler, B. & Gruenewald, P.J. (2014). Examining the relationship between the physical availability of medical marijuana and marijuana use across fifty California cities. *Drug and Alcohol Dependence*, 143, 244-250. doi: 10.1016/j.drugalcdep.2014.07.036
- Freisthler, B., Kepple, N.J., Sims, R., & Martin, S.E. (2013). Evaluating medical marijuana dispensary policies: Spatial methods for the study of environmentally-based interventions. *American Journal of Community Psychology*, 51, 278-288.
- Kepple, N.J. & Freisthler, B. (2012). Exploring the ecological association between crime and medical marijuana dispensaries. *Journal of Studies on Alcohol and Drugs*, 73, 523-530.
- Morrison, C., Gruenewald, P.J., Freisthler, B., Ponicki, W.R., & Remer, L.G. (2014). The economic geography of medical marijuana dispensaries in California. *International Journal of Drug Policy*, 25, 508-515. doi: 10.1016/j.drugpo.2013.12.009
- Mair, C., Freisthler, B., Ponicki, W.R., & Gaidus, A. (*In review*). Are marijuana dispensary densities and community demographic and environmental conditions associated with marijuana abuse and dependence hospitalizations?

Project: *Drugs: Education, Policy and Prevention – Special Issue Focusing on Drug Abuse Prevention Environmental Interventions (Friend, Lead Editor; 2014)*. Friend, K., Pettibone, K., Florin, P., Nargiso, J., & Vela, J. *Lead Guest Editor – Special Issue. Drugs: Education, Prevention, and Policy.* Interventions targeting risk and protective factors related to drug abuse. In print.

Principal Investigator: Karen Friend

Abstract: Karen Friend served as the lead editor for a special issue of *Drugs: Education, Policy and Prevention* on interventions targeting drug abuse risk and protective factors. One of the seminal manuscripts appearing in this issue is *Community-Based Environmental Strategies to Prevent the Nonmedical Use of Marijuana: A Review of the Literature (Quinlan, Valenti, Barovier, Rots, & Harding)*. The purpose of this manuscript is to summarize published evidence for environmental strategies to prevent the nonmedical use of marijuana. Four databases (PSYCHINFO, SocINDEX, PsycARTICLES, Academic Search Complete) were searched for articles examining environmental strategies for NMUM prevention. Articles included were peer-reviewed, published in English between 2003 and 2013, and had full-text availability. Twenty articles met inclusion criteria. Results showed that media prevention campaigns for NMUM work best when they are well-targeted and bolstered by community-level support. Marijuana-related policy studies on medical marijuana laws (MML) show inconsistent findings about their impact on NMUM. Unique distribution characteristics for marijuana make its use relatively insensitive to price fluctuations compared to other illicit drugs. Future research should focus on evaluation of: (a) policies that expand beyond MMLs, (b) marijuana enforcement strategies, and (c) other types of state or local-level environmental strategies.

SAMHSA Program Evaluation and Interventions Targeting Sub-Populations

Project: *Evaluation of SAMHSA Programs to Reduce Marijuana Use and Harms at Historically-Black Colleges and Universities (HBCU) (subcontract)*

Subcontract Project Director: Andrew Gluck

Funding Agency: SAMHSA (A-G Associates prime)

Period of Performance: 07/28/2014 – 2/15/2015

Award: \$50,000 (total)

Abstract: Under a sub-contract, PIRE is performing a multi-phase evaluation of the reach and effect of the four SAMHSA Center for Substance Abuse Treatment programs being implemented on 40 HBCU campuses to determine best practices in program outreach and implementation, as well as to determine which programs are having the greatest outcomes and the largest impact. The following is a summary of the plan to evaluate the implementation, outputs, and outcomes of the 40-campus, one-year start-up of the four programs. PIRE will measure the performance of the 40 institutions adopting the four programs along five parameters: 1) outreach, recruitment, and retention of program participants and students interested in healthcare-related careers, 2) program implementation with fidelity, 3) behavioral changes among participants (e.g., less binge drinking, less heavy use of marijuana, better ability to manage mental health issues), 4) associated outcomes (e.g., improvement in health, reduction in healthcare costs, improvement in GPA, reduction in stop-outs and drop-outs, and the projected improvement in earnings capacity), and 5) an ROI analysis for CSAT's investment in the 40 campuses, and a projected ROI for participating institutions' investment beyond year one. Marijuana use at HBCUs is of particular concern because, although African Americans consume alcohol and other drugs at a much lower rate than the rest of the U.S. population, the rate of marijuana use by African Americans has seen a dramatic increase over the last few years and has actually risen above national averages. Specifically marijuana-related outcomes include savings from avoiding: 1) respiratory illnesses; 2) automobile accidents; 3) lower earnings due to lower grade point average; and 4) dropouts.

Use Among Racial/Ethnic Minorities

Project: *Social Meanings of Drugs for Asian American Youth (grant)*

Principal Investigator: Juliet P. Lee

Funding Agency: National Institute on Drug Abuse (NIDA)

Period of Performance: 04/05/05-01/31/10

Award: \$1,597,727

Abstract: The major goal of this study was to investigate the social meanings of drugs and drug use for Asian American youth. Through two waves of in-depth interviews with 140 male and female Laotians and Cambodians in the San Francisco Bay Area between the ages of 15 and 23, together with ethnographic observations of Southeast Asian public gatherings, the four-year study specifically investigated socio-environmental influences on norms and practices related to illicit drug use among second-generation Southeast Asian youth.

Products

Soller, B., & Lee, J. P. (2010). Drug intake methods and social identity: The use of marijuana in blunts among Southeast Asian American adolescents and emerging adults. *Journal of Adolescent Research* 25(6): 783-806. PMID: PMC3193281.

Lipperman-Kreda, S., & Lee, J. P. (2011). Boost your high: Cigarette smoking to enhance alcohol and drug effects among Southeast Asian American youth." *Journal of Drug Issues*, 41(4): 509-521. PMID: PMC3328969

Lipperman-Kreda, S., Lee, J. P., Morrison, C., & Freisthler, B. (2014). Availability of tobacco products associated with use of marijuana cigars (blunts). *Drug and Alcohol Dependence* 134(1), 337-342. PMID: PMC3883305

Project: *Social Networking among Drug-Using Ethnic Minority Youth (grant)*

Principal Investigator: Juliet P. Lee

Funding Agency: National Institute on Drug Abuse (NIDA)

Period of Performance: 2003-2004

Award: \$76,162

Abstract: This pilot study sought to investigate social-environmental influences in the drug use of Southeast Asian youth in the east San Francisco Bay Area. An underlying premise of the research has been that in order to understand the impact of acculturation on substance use for immigrants and their children, it is important to analyze the social environment within which they live and their relationship to this environment.

Products

Lee, J. P., & Kirkpatrick, Sean B. (2005). Social meanings of marijuana use for Southeast Asian youth. *Journal of Ethnicity in Substance Abuse*, 4(3/4), 133-152 (special issue on The Cultural/Subcultural Contexts of Marijuana Use in the Oughts, A. Golub, ed.). PMID: PMC3201808.

Project: *Environmental Contexts of Smoking for Southeast Asians (grant)*

Principal Investigator: Juliet P. Lee

Funding Agency: University of California Tobacco-Related Disease Research Program (TRDRP)

Period of Performance: 07/01/04- 06/30/08

Award: \$497,734

Abstract: The major goal of this project was to investigate the relationship between socio-cultural environmental factors and knowledge, attitudes and practices related to cigarette use among Southeast Asians in California urban areas. Through in-depth interviews with 120 male and female Laotians and Cambodians in the San Francisco Bay Area representing two generations in the U.S., together with ethnographic observations of Southeast Asian public gatherings, the three-year study specifically investigated inter-generational variation in the social meanings of smoking; in knowledge of and attitudes towards smoking; and in smoking behaviors.

Products

Lee, J. P., Battle, R. S., Soller, B., & Lipton, (2010). Smoking: Use of cigarettes, cigars and blunts among Southeast Asian Americans. *Health Education Research*, 25(1), 83-96. PMID: PMC2805404.

Project: *Stigma Related to the Use of Medical Marijuana (grant)*

Principal Investigator: Travis Satterlund

Co-Investigators: Juliet Lee & Roland Moore

Period of Performance: 2014

Funding Agency: PIRE (pilot study)

Abstract: The enactment of California's Proposition 215 stipulates that patients may use marijuana for medical reasons, provided that it is recommended by a physician. Yet, medical marijuana patients risk being stigmatized for this practice. This paper examines the way in which medical marijuana patients perceive and process stigma, and how it affects their interactions and experiences with others. Eighteen semi-structured interviews of medical marijuana patients were carried out using a semi-structured interview guide. Most patients circumvented their own physicians in obtaining a recommendation to use medicinal marijuana, and also used a host of strategies in order to justify their medical marijuana use to family, friends and colleagues in order to stave off potential stigma. The stigmatization of medical marijuana thus has a profound effect on how patients seek treatment, and whether they seek medical marijuana treatment at all.

Products

Satterlund, T. D., Lee, J. P., & Moore, R. S. (*In press*). Stigma among California's medical marijuana patients. *Journal of Psychoactive Drugs*.

Media Campaigns

Project: *Antimarijuana Public Service Announcement Effectiveness (grant)*

Principal Investigator: Pamela Cupp

Funding Agency: National Institutes of Health

Abstract: A laboratory experiment, funded by the U.S. National Institutes of Health, involved 243 U.S. undergraduate students and employed a 2 (gain-framed vs. loss-framed) × 2 (high vs. low threat) plus control group pretest-posttest experimental design to assess the combined effects of frame (gain vs. loss) and level of threat of public service announcements (PSAs) about marijuana on attitudes, beliefs, and intentions related to marijuana, as well as the relationship of message condition to ratings of PSAs. Results suggest that loss-framed messages may lead to greater perceived threat, as well as reactance, and gain-framed messages may lead to a greater reduction in positive attitudes toward marijuana than loss-framed messages. Finally, frame and threat may interact in a complex way. Further research is suggested to replicate these findings. A substantial body of carefully crafted and systematic research studies examining both content and features of messages increasingly informs mass media prevention efforts, including the development of public service announcements (PSAs). Although the significance of messages on commercial broadcast stations may be diminishing with the increasing role and impact of new media, many of the basic questions addressed by this research are likely to apply across media channels. Nonetheless, important questions about what makes a message effective in changing an individual's attitudes or behavior remain to be answered. In this paper, the authors focus on two theoretically derived strategies that offer possibilities for developing persuasive messages: framing and threat.

Products

Zimmerman, R., Cupp, P. K., Abadi, M., Donohew, R. L., Gray, C., Gordon, L., & Grossl, A. B. (June 2014). The effects of framing and fear on ratings and impact of antimarijuana PSAs. *Substance Use & Misuse*, 49(7), 824-835. PMC Journal-in-Process.

Training and Technical Assistance

Project: *Marijuana information training and technical assistance (concept paper)*

Project Director: Allan Cohen

Abstract: This concept paper begins to outline a potential initiative by PIRE that fills an important gap in public health concerns over psychoactive drugs, in particular the emergent crisis over cannabis-based products—(e.g., “marijuana,” hashish oils, “wax”) and cannabis-delivered chemicals, especially THC. There is a significant national gap in reliable information, education and guidance about marijuana-related issues. We confirm an even more profound vacuum in marijuana/THC-specific prevention strategies and treatment resources. A possible public health response to this gap is a PIRE National Center that would provide objective and evidence-based guidance through information, education, analysis, training, technical assistance and public awareness. PIRE can jump start its already potent capacity by collaborating with and adapting an established Australian cannabis prevention and information center that includes several elements consistent with a PIRE approach.