

NHSN Quarterly Newsletter: March 2015

Welcome Message from the Editors of *El Faro*, Sandra Oviedo Ramirez and Allyson Hughes.



Welcome to the Spring 2015 edition of *El Faro: La Voz de la Red*. The purpose of this newsletter is to keep you up to date with

current topics and research amongst the members of the National Hispanic Science Network (NHSN) and the Early Career Leadership Committee (ECLC). First we would like to introduce ourselves as the co-editors for this newsletter. We are Health Psychology Ph.D. students at the University of Texas at El Paso. We are both members of the Hispanic Health Disparities/Integrative Mixed Methods Laboratory led by Dr. Felipe Gonzalez Castro. I, Sandra, earned my B.A. in Psychology from California State University San Marcos in 2013. Currently, I am also a member of the Latino Alcohol and Health Disparities Research Consortium led by Dr. Craig Field. I, Allyson, earned my B.S. in Psychology from the University of Texas at El Paso in 2012. My thesis examined the sociocultural influences on perceived risk of adult Latinos at risk of developing type 2 diabetes.

We encourage you to read this edition's feature article which discusses current drug trends and their implications on research.

Dr. Yessenia Castro provides insights into tobacco and e-cigarette usage including commentary on recent news regarding marijuana legalization. Dr. Craig Field provides a perceptive expert opinion on alcohol abuse and how the legalization of marijuana may impact alcohol research.

This edition's *Career Divo* features Dr. Keith Trujillo, a distinguished mid-career scientist, who presents witty views on successfully choosing a career path and thoughtful suggestions for keeping yourself grounded during the pursuit of your graduate career. Read *Nuestra Voz*, written by Dr. Luis Natividad, for details about his professional learning experience during his doctoral training and post-doctoral training.

This edition's *International Front* features Dr. Oralia Loza's research regarding substance abuse on the U.S.-Mexico border. Dr. Loza presents her work that examine drug use prevalence and if it differs from state or national data, by cross-border mobility, and/or generational immigration. For our *New Member Interviews*, we will meet recently elected member, Dr. Rumi Kato Price, a professor of Psychiatry at Washington University School of Medicine. This feature helps us keep up with our growing network. Thank you to everyone who helped to plan and contribute to this edition of *El Faro*. If you are interested in being part of a future edition of *El Faro*, please feel free to contact us.

Sincerely,

Sandra & Allyson

Current Drug Trends and Their Implications on Research-Drs. Craig Field and Yessenia Castro

Several states have legalized marijuana use. Studies have found that on many occasions, people consume both marijuana and alcohol at the same time and this can result in a deathly combination. What is still unknown is how the legalization of marijuana might impact alcohol research.



Dr. Craig Field, an associate professor at the University of Texas at El Paso, voices his opinion on the legalization of marijuana and the impact of alcohol research. His research interests include the development and

evaluation of brief motivational interventions in the medical setting to promote health behavior change and improve health outcomes among Latinos and the underserved.

Imagine that tomorrow Pharmaceutical Company A comes out with Medicine B and rapidly gets it on the shelves of every pharmacy in the United States. Medicine B is touted as being effective for headaches, nausea, and certain types of seizures, anxiety pain and inflammation. A common side effect of Medicine B is benign, mild to moderate euphoria. Through market research, Pharmaceutical Company A has determined that middle aged adults, elderly and patients with mental and physical will purchase Medicine B despite its cost with limited advertising. To generate additional

sales, Pharmaceutical Company A spends a modest portion of its advertising dollars to develop packaging and advertising that will attract adults who experience mild and/or infrequent headaches, nausea, anxiety, pain and inflammation to purchase Medicine B. Pharmaceutical Company A appeals to this target audience by touting Medicine B as being a compound of natural ingredient that most people would find in their kitchen, something that has been used for centuries and something the body naturally creates. Pharmaceutical Company A also recognizes the financial benefit of further expanding the market and creating lifelong, brand loyal customers for its new product. Therefore, it spends the majority of its marketing and advertising to create packaging with bright colors and cartoon mascots to appeal to youth and young adults.

Fortunately, because of the interest that Pharmaceutical Company A has generated about Medicine B, there is widespread consensus that Medicine B should be made immediately available as a special class of over the counter medication that has no regulation or oversight from the Food and Drug Administration. Indeed, because of the unprecedented nature of Medicine B the knowledge to effectively regulate (quality control, proper dosage, and monitoring of



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adverse reactions etc., potential interaction with commonly used prescription and over the counter medications). This corporate right allows Pharmaceutical Company A to produce Medicine B in such a way that a 5 milligram pill may have anywhere from a 1 to 5 milligrams dose of the active ingredient. In addition, the active ingredient in Medicine B can be a variant of the primary compound that may result in more potent forms of the active ingredient that may affect people who take it in varying ways. Unfortunately, this is not the premise of a recent science fiction novel with a multibillion dollar, international conglomerate as its antagonist. In many ways, this dramatization parallels the legalization of marijuana.

The legalization of marijuana is essentially a Phase V clinical trial without having conducted Phases I-IV. In general, any treatment has a treatment effect and a side effect. In general, a treatment is acceptable when the benefits of the treatment effect outweigh the severity and risks of the side effects. Assuming that marijuana may be beneficial to some with minimal or tolerable side effects and doesn't pose significant risks or lead to severe reactions among others, there is not a rigorous body of research evaluating the potential efficacy of marijuana among various populations. Unlike other widely available over the counter medications, marijuana safety profiles and other fundamental information is still unknown which disadvantages interested parties such as researchers, healthcare providers or the public. For example, we don't know the appropriate dose for treating a particular symptom or set

of symptoms in various populations. As with almost all medications, the poison is in the dose. Without regulation or oversight, it would be difficult to determine the quality of any particular kind marijuana made publicly available. We don't know how marijuana compares to placebo. In contrast, we do know the addiction potential, long terms effects of marijuana use, how it effects development in youth and young adults and how it may affect cognitive functioning over the lifespan.

In part, the wide spread legalization may have been pursued in lieu of medical marijuana because national organizations such as the American Medical Association and the Institute of Medicine have strongly and consistently called for research on the public health, medical, economic and social consequences of cannabis use. This call for research happened before both the medicinal value of cannabis and legalization were even considered. Thus, there is a pressing need and demand for more rigorous research regarding the effects of marijuana.

For example, more than a decade of untapped national survey data could be used in secondary data analysis to explore the comorbid use of alcohol and marijuana. This is one way of gaining insight into the potential health disparities and inequities that may disproportionately affect specific priority and/or underserved populations. In 2012, the National Institute of Health initiated the functional integration of the National Institute on Drug Abuse and the National Institute of Alcohol Abuse and Alcoholism to further encourage collaborative research on these topics. This



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has led to new opportunities in substance use, abuse and addiction related research and public health that may have been less likely in the past. Thus, the unintended side effect of the legalization of marijuana may be the development of a significant and rigorous body of clinical and public health research to inform its empirical evaluation. For better or worse, the widespread availability of marijuana will undoubtedly prompt a closer look at marijuana from policy and ethical perspectives based on rigorous research that meets fundamental scientific principals and is deemed meritorious by healthcare providers, public health professionals, researchers, academicians and other key stakeholders.



Yessenia Castro, Ph.D., is an Assistant Professor in the School of Social Work at the University of Texas at Austin, where she studies the influence of

cultural adaptation variables on cancer risk behavior among Latinos. She is particularly interested in understanding how cultural variables combine with known key determinants of smoking to affect cessation outcomes. Here she provides answers to our interview questions regarding the possible repercussions of the legalization of marijuana.

Several states have legalized marijuana use. In your opinion, what does this mean for Hispanics? Do you believe that there will be repercussions on health behavior?

Legalization of marijuana for recreational use is an extremely controversial topic. On the one hand, legalization of marijuana reflects the will of voters, and on the other hand states cannot overlook the implications of marijuana legalization on health behavior and public health. It is logical that increasing access to a drug will increase the possibility of use, as well as the consequences related to use of that drug. Of course, regulation and safety of the product is critical. But just as critical are public health campaigns, interventions and policies on issues like responsible use and the physical, mental and legal consequences associated with use and abuse. Furthermore, it is imperative that such efforts attend to diverse and difficult to reach groups.

With the legalization of marijuana, what is the future of research in this field?

I suspect there will be a strong need to evaluate the effects of policies and campaigns implemented by those states where recreational marijuana use is legal. In addition, there will likely be a need for increased research, particularly prevention research, on initiation among youth as well as targeting to youth by the marijuana industry. I have no doubt that additional new questions will arise that the research community has not yet anticipated.



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The prevalence of e-cigarettes use continues to increase, yet there is limited research on the effects caused by their usage. In your opinion, what does this mean for the field of preventative research?

We have actually seen a dramatic rise in research on e-cigarettes in the last four years or so. I anticipate a continued interest in this area of research and further increases in the number of published articles on e-cigarette use. Such a pattern is extremely positive, as it more research on the use of e-cigarettes only further our knowledge of e-cigarette use and its consequences, which in turn will inform prevention, intervention, and

regulation efforts.

In your opinion, how will legislation changes impact grant funding opportunities?

I think we are already seeing funding agencies adopting research priority areas consistently (e.g., research on marijuana, use in adolescence, as well as tobacco control act regulatory research). This practice by funding agencies makes logical sense and I suspect we will continue to see funding opportunities that directly and indirectly inform these new policies.

Upcoming Events Conference Announcement

The National Hispanic Science Network's 15th Annual International Conference will take place **Wednesday, June 24 –Friday June 26, 2015 in San Antonio, TX**. Plenary presentations will be given by Dr. George Koob, Director of the National Institute of Alcohol Abuse and Alcoholism, and Dr. Nora Volkow, Director of the National Institute on Drug Abuse. Additional panels will be focused on Health Disparities in Alcohol Use; Drug Use and Comorbid Mental Illness, Drug Use in Adolescence; and Multiple Health Risk Behaviors among Latinos. Mentoring activities will include an early-career investigator panel, speed mentoring session, a grant review panel, poster session and evening social events. The annual conference serves as an excellent platform for young investigators to promote their research interests, in addition to an opportunity for members to receive pertinent information regarding the future of the organization.



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Career Divo

Dr. Trujillo is a psychopharmacologist and



behavioral neuroscientist with wide-ranging interests in the brain and behavior. He has performed research on brain mechanisms of reward, on drug-induced changes

in the brain and behavior, including tolerance, dependence and sensitization, and on a variety of drugs of abuse, including opiates, psychomotor stimulants and dissociatives. He has also performed research on schizophrenia and major depression. His research has been funded by the National Institute on Drug Abuse (NIDA), the National Institute of Mental Health (NIMH), the National Institute of General Medical Sciences (NIGMS) and the National Alliance for Research on Schizophrenia and Depression (NARSAD). In this issue, he shares with us his views on successfully choosing a career path and thoughtful suggestions for keeping yourself grounded during the pursuit of your graduate career.

When I was invited to submit an article for the “Career Diva” section of *El Faro*, I wasn’t sure what to think. Most of us are aware of the current connotation of ‘Diva’, which often refers to somebody who’s an overbearing, high maintenance, prima donna. To paraphrase the Urban Dictionary,

a diva is someone with an exaggerated sense of self-importance requiring a great deal of attention and excessive effort. Since I was invited by my former student, Sandra Oviedo to submit this article, I was a little worried about her perception of me. However, after doing a little more research, I came to recognize the more positive aspects of a diva, as someone who is accomplished in their field. I also learned that for a male, the more appropriate term is divo (not to be confused with Devo, the band that made it big in the late 1970s). So, unless Sandra informs me otherwise, I’ll assume she had the more positive view in mind when she invited me to submit a *Career Divo* article.

Like a good number of my friends in the National Hispanic Science Network, my path to a PhD and a career in academia was not a straight one. I was raised in a small rural community in northern California by a hardworking family with little history in, or understanding of, higher education. After high school I attended the local community college, where I received an Associate’s degree in Biological Science. I then transferred to California State University, Chico and took advantage of the wonderful educational opportunities there to earn Bachelor’s degrees in Biological Sciences, Psychology and Chemistry. It was at Chico where I first became aware of an opportunity for a degree beyond the Bachelor’s, although I had little appreciation of how to pursue it. A volunteer internship at the National Institute of Health provided much needed research experience, and gave added understanding that helped me take the leap to apply for grad school. I was accepted



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to only a single doctoral program, but thankfully that was enough, and after several years of hard work and sleepless nights I received my PhD in Pharmacology and Toxicology from UC Irvine. I then pursued postdoctoral work at the University of Michigan prior to taking a faculty position at California State University San Marcos (CSUSM). I've now been in a very rewarding faculty career at CSUSM for over 20 years, helping the next generation of researchers find their way to advanced degrees. Among the exceptional students I've had the opportunity to mentor at CSUSM are NHSN members Sandra Oviedo, Angelica Rocha and Ian Mendez (Angelica and Ian have both been recipients of the National Award of Excellence in Research by a Graduate Student, and I'm confident that Sandra will follow in their footsteps). I'm grateful to be a part of the NHSN family and to have found a home with such warm, welcoming individuals (who also happen to be brilliant scientists addressing issues of importance to our communities).

With that as introduction, I've been asked to share some words of wisdom about career paths. It's clear that little can be offered in a short article, and a book would be more appropriate for comprehensive career advice -- in fact, there are many good books available on the topic (do a quick search on Amazon and you'll find many excellent resources). I'm not prepared to offer a book-length discussion of careers and I'm pretty sure *El Faro* isn't prepared to publish one. Instead I'll address a few topics that I hope will be helpful to early career scientists seeking support and guidance. I'll start with

a couple of things to remember when you're discouraged, and finish with some thoughts on building a strong career network.

Never Forget How Rare and Valuable You Are.

In a research career you're continually surrounded by very accomplished individuals, so it's easy to lose perspective on the impressive things you've done. When you're struggling or questioning your career path it's particularly easy to dismiss your accomplishments. However, considering education alone, you're among an elite few. According to data from the US Census, in 2014 approximately 15% of individuals over 25 years of age had obtained a Bachelor's as their highest degree, however for Hispanics, the total was 8%; for a Master's degree the percentages were 8.6% and 3.5%, respectively; and for a PhD the percentages were 1.8% and 0.7% (United States Census Bureau, 2014). Whenever you're discouraged about your career, stop and remind yourself that your educational achievements make you a unique person with much to offer to your family, your community and society.

On a related note, never forget how incredibly valuable you are. When I work with young students to encourage them to pursue graduate studies I often begin by asking them how many Latino or Latina professors they've had during their college education. The answer is nearly always 'none', and this is often followed by a discussion about their difficulty in imagining a career in higher education. The lack of good role models has been extensively discussed as a significant barrier



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to increasing diversity in science and academia. Whether or not you take an active role in mentoring others, you are a visible and valuable role model. Without doing anything more than being who you are – a Latina or Latino who has succeeded in higher education – you serve a critical role as a beacon for the next generation.

I should add that you're a role model for many, both in and out of higher education. This is especially true if you're the first in your family to pursue a college education or an advanced degree. Keep in mind that your family is paying attention and that you're likely having a significant impact on your brothers and sisters, cousins, nieces and nephews and others in your extended family. Moreover, your community is also paying attention – people are almost certainly using you as an example of what others from your community might achieve.

Enjoy the Benefits of a Higher Degree.

Another discussion I have when I work to encourage young students to pursue graduate studies is about compensation. Few people pursue a PhD because they think it will make them wealthy. On the other hand, few are willing to take a vow of poverty so they can make contributions in science and academia. There's a classic scene from an episode of *The Simpsons* where Bart makes fun of graduate students, saying "Look at me, I'm a grad student! I'm 30 years old and I made \$600 last year!" His mother responds with "Bart, don't make fun of grad students, they just made a terrible life choice." Fortunately, the situation is not as dire as Bart or Marge imagine. Although compensation early in training may seem

low, compensation and employment rates reveal the value of a PhD. It's particularly instructive to compare the stats for a Bachelor's degree versus a PhD. According to the United States Bureau of Labor Statistics (2014), the unemployment rate for those with PhDs was half that for those with Bachelor's degrees (2.2% versus 4%), and the median compensation for PhDs was 46% higher (United States Department of Labor, Bureau of Labor Statistics, 2014).

Considering a lifetime of earnings, the compensation for a PhD has been calculated as greater than \$1 million more than that of a Bachelor's degree (Carnevale, Rose and Cheah, 2011). Prior to sharing these statistics, I ask students if they'd pursue a PhD if I handed them a \$1 million check, and their answer is almost always yes. I then point out that they'll be writing themselves a \$1 million check if they obtain a PhD.

Therefore, whenever you get discouraged about compensation as a grad student, remember that by persevering and succeeding you'll be writing yourself a \$1 million check.

I should add that the statistics on unemployment and compensation help in discussions with family members about pursuit of a higher degree. Most of our families have little understanding of the science we do, or the need for pursuing a PhD. When you share with them that you'll be earning more than \$1 million more by continuing your education, it's a little easier for them to recognize the value.

Of course, the benefits of a doctoral-level career in research extend well-beyond low unemployment and (relatively) high



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compensation. We have the privilege of pursuing a career devoted to seeking truth. If thoughtful and well designed, our discoveries reveal something fundamental about the world and have the opportunity to influence the behavior, health and well-being of people in our community and around the world. We are paid to discover, to learn, and to share the fruits of these endeavors with others. It's hard to imagine a more rewarding career path!

Network, Network, Network to Build Opportunities.

Very often the message from advisors and mentors for trainees is to keep your nose to the grindstone collecting data and moving the research forward. This is sometimes accompanied by the suggestion that 'the data speaks for itself' and that your publications will establish your reputation. Of course, hard work in the laboratory and a collection of solid publications are essential to building a respected career, however by themselves they are insufficient. To borrow from a Nigerian Proverb (which was also borrowed by Hillary Clinton), "It takes a village" to build a career. One of the most important tasks that you have is growing the village that will help you build your career.

A cynical interpretation of this idea is the old adage "It's not what you know, it's who you know" and that someone with lesser accomplishments might be selected because of connections. It's important to remember, however, that in a research career *who you know* will only create opportunities, *what you know* (your skills, expertise and accomplishments) will allow you to take full advantage of those opportunities. *Who you*

know can help you get your foot in a door, but *what you know* will allow you to enter the room.

The process by which you build your village is called *networking*. People sometimes have a difficult time embracing the concept, perhaps because it sounds like hard work (after all, *work* is a major root of the word). A hidden secret, however, is that networking is actually quite fun (but I guess netfunning doesn't quite work as a concept). I'm reminded of a remarkable little book, entitled *All I Really Need to Know I Learned in Kindergarten* (Fulgum, 1988); networking at its core is simply making friends, which is something we should have all learned in kindergarten, if not earlier. You can find much written that does seem to turn this simple concept into hard work, including books and articles about 'strategic networking', becoming a 'power connector', or turning networking into a 'contact sport', however it isn't necessary that networking become drudgery. It can be as simple as having a good conversation with somebody over a cup of coffee or a glass of beer and making a connection.

It's not difficult to see how a simple connection might help you in your career. Perhaps the person you're sharing a beer with is aware of a scholarship or fellowship that would be perfect for you; or knows of a class that would help you build skills that will improve your research; or introduces you to a professor who is doing similar work and can help you with your experimental design; or alerts you to a postdoctoral opportunity or faculty position that you were unaware of. There are endless benefits, both



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small and large, that can accrue through the help of those around you, whether they're peers or more senior professors and mentors. A series of even small benefits accumulated over years can become quite large in the course of a career.

An excellent place to begin networking is in the National Hispanic Science *Network*. As revealed in the name of the organization, and indicated in its Mission Statement, one of the key goals is "Fostering the development and advancement of Hispanic scientists to promote future leaders." The founders of NHSN saw a critical role for the organization in professional development of its members and worked to create an atmosphere of support and encouragement. We see that infused in everything NHSN does, from early career opportunities, to the warm and inviting atmosphere created each year at the annual conference and the summer training institute. There is the view that NHSN is a family and that we should do what we can to help each other develop strong careers. Therefore, if you lack confidence in your networking, begin with this warm, inviting family. You'll find that by simply speaking with people in this non-threatening environment you'll build a growing network and increase your confidence in how to approach others.

Conclusions

I'm hoping that you feel a little more empowered in your career – that you recognize that you're rare and valuable, and that world will be better with you completing a PhD and performing thoughtful research; that a career in research can be prosperous and give you the

opportunity to contribute to your family, your community and the world; and that by having a little fun over coffee or beer you can create benefits that help you develop a strong and fruitful career. To borrow again from Bart Simpson: S-U-C-C-E-E-S, that's the way you spell "Success"!

References

- Carnevale, A.P., Rose, S.J. and Cheah, B. (2011). The College Payoff: Education, Occupations, Lifetime Earnings. The Georgetown Center on Education and the Workforce. <https://cew.georgetown.edu/report/the-college-payoff>
- Fulgum, R. (1988). *All I Really Need to Know I Learned in Kindergarten: Uncommon Thoughts On Common Things*. Villard Books, New York, NY.
- United States Census Bureau (2014). Educational Attainment in the United States: 2014 - Detailed Tables. <http://www.census.gov/hhes/socdemo/education/data/cps/2014/tables.html>
- United States Department of Labor, Bureau of Labor Statistics (2014). Earnings and Unemployment Rates By Educational Attainment. http://www.bls.gov/emp/ep_chart_001.htm

Nuestra Voz



Dr. Luis Alberto Natividad was born and raised in El Paso, Texas. He obtained

his undergraduate degree in Psychology from the University of Texas at Austin in 2002. During this time, he began research work with Dr. Adriana Alcantara studying the effects of alcohol exposure on cholinergic mechanisms in the brain. Soon after graduating, Dr. Natividad received an internship as a drug addiction counselor. He became interested in age-related issues in



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drug abuse, particularly the rampant drug use among teenagers. This inspired him to explore the neural basis of adolescent vulnerability to escalated drug use. In August 2005, he entered the Social, Cognition and Neuroscience program in the Psychology department at the University of Texas at El Paso, and under the guidance of Dr. Laura O'Dell, studied the behavioral and neurochemical mechanisms that drive nicotine addiction in rats of different ages. Dr. Natividad received his doctoral degree in May 2012. Dr. Natividad is currently a post-doctoral scholar at the Scripps Research Institute in La Jolla, California in the laboratory of Dr. Loren Parsons. His focus of study is exploring the role of endocannabinoid signaling systems in modulating the behavioral and neurochemical effects of alcohol exposure and withdrawal. Below he shares his career trajectory and his experiences as a post-doctoral scholar at the Scripps Research Institute.

Early on in graduate school, I had this notion that by the time I graduated with a Ph.D. I would have my entire research outfit figured out. Not only did I think that I would have a solid “plan of action”, but also the credibility and the tools to carve out an interesting niche for myself. I thought that these qualities would all be self-evident come graduation day, and that the diploma would be something of a rite of passage to principal investigator (PI) status. As that time drew nearer, I learned that this was not the case, and sadly enough, earning a Ph.D. degree was a mere step in the right direction. I knew in my heart of hearts that I wanted to do research, and that eventually I would love

to sit at the PI table, but I did not know exactly how to connect these dots. In discussions with my mentor and others, it seemed like post-doctoral training was a good fit for me. Generally, a post-doctoral appointment (informally known as a “post-doc”) is an opportunity to conduct focused research and/ or training beyond the body of work that comprised one’s doctoral training. At first, I remember thinking, “How is this any different from what I’ve been doing for the past few years”? Indeed as I neared completion of my dissertation studies, a post-doc seemed like a natural extension of these activities. Almost three years into my post-doc training, I can write with confidence that however parsimonious these initial views were, they were not the full story. The purpose of this brief essay is to share a few of my learning experiences as a post-doc, with the hope that some of these may resonate with aspiring pre-doc students who find themselves at the crossroads of achieving a Ph.D., and the mystery that happens afterwards.

At face value, a post-doc may be defined by the end product, which I address here in relation to my own pursuits in academia. Simply put, my main goal is to acquire a tenure track position in an academic or research institution. To this end, I will need to show evidence that I am a productive member of the scientific community (i.e., research publications, presentations in scientific meetings), that I am capable of organizing my research program in innovative and meaningful ways (primarily via grant funding), and that I have the tools and support system that will enable my research (via networking at scientific



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meetings and within the scientific community). Some institutions even want to see that I have the ability to teach classes to undergraduate students. I mention these not as an exhaustive list, but to highlight a few of the characteristics that I have noticed of successful PIs. The hope is that by the end of my post-doc, I will have developed a platform to address all of these items.

In some ways, a post-doc appointment is meant to connect us to a deeper reality that even with a Ph.D., we are not yet at our final destination as scholars. We can continue to refine ourselves, both in thought and action. We can go beyond the scaffolding laid out in our Ph.D. studies to build new connections, find new opportunities, and challenge ourselves outside our conventions that we may achieve higher and broader impact. While these are all nice, empowering thoughts, there are many ways to capitalize on this opportunity, and I do not intend for this essay to be a survivor's guide to such delicate matters. It is imperative that any pre-doc student wishing to flourish in academia discuss these possibilities with his/her respective mentors and trusted colleagues. That aside, in my field of study (i.e., Neuroscience), it is often advised that one continue his/ her research endeavors in a new laboratory, ideally located away from the Ph.D. conferring institution. The intention here is that with a fresh perspective, one may begin solidifying his/ her expertise in a given topic, while also learning the basic, PI-related skills of assembling a team, procuring funds, and employing novel techniques and methods to address broadening interests.

In my instance, I chose to improve on my foundations as a neurochemist by studying new signaling systems in the brain (i.e., endocannabinoids) with sophisticated, high throughput tools (i.e., mass spectrometry). This strategy would allow me to venture further into the technology, while keeping me rooted in something familiar (i.e., behavioral animal models). Thus, as I learned more about mass spec, I was also able to put these concepts to practice with skill sets already in my possession. In my opinion, this provided a functional synergy between learning new information and using old practices, such that I never felt lost or disconnected from my pursuits. As I now contemplate the "10 year plan", it is interesting that knowing the technological side enabled me to think on a broader scale than the handful of neurotransmitters systems I studied in the past. Whereas novel hypotheses are useful, having a functional understanding of the techniques that derive hard numbers in support or refute of these theories is exponentially helpful. To the young readership, it may be wise to consider how technology is changing in your field of study. A post-doc appointment is ideal for gaining a deeper understanding of the technology that is at the forefront of novel findings. As such, it will be incumbent on us to determine what role we will play in the face of these changes.

The challenges of being a post-doc do not stop with science, albeit this is a huge part of the commitment. In addition to experimentation, there is also a cognitive quandary. That is, "how can I use this opportunity to position myself for future success"? Although a straightforward



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question, the ambiguity of it all is ridden with detours and time-sinks. Sometimes experiments work out, and other times they do not. When should one “stay the course” versus “cut bait”? As surely as the open mind can find alternative paths, these may come with a hefty price on our most valuable asset... our time. In many ways, Day 1 of a post-doc appointment is the metaphorical “lighting of the fuse”. There will be resources for post-docs that have expiration dates (e.g., grant applications). There will be “perceptions” of our use of time. There will be consequences to face if our timing falls on the wayside. It is extremely important that one develop that sense of timing quickly, and preferably before the appointment begins. What appears to be a distant three to five years away will become very “real” two years into a post-doc. I would encourage the young readership that instead of thinking of a post-doc in a linear “start-to-finish” format, work backwards from the end point. Answer the question, “what kind of researcher do I want to be?” Do I envision myself in a Tier One institute? Do I want to teach? Would I prefer the nine to five job?” Each of these questions carries with it a different set of expectations, and hence a different trajectory. The same ticket will not necessarily gain admittance into all the dances. Thus, the sooner one can address these end points, the sooner one can define the path to follow, and all the benchmarks therein.

One of the most difficult things to ascertain for a post-doc is when he/ she is ready to step into the role of PI. This is not necessarily intuitive, and the worst scenario

I can imagine for myself is “coming off the blocks” too soon. As a PI, the battles are tougher, the stakes are higher, and the consequences more severe if you lack the tools to deal with a variety of circumstances. The timing component described earlier is not just an asset, but also a mantra. So how does one know if he/ she is really ready? Beyond the obvious need for publications, grants and support systems, I have noticed that whenever I interact with a senior post-doc, particularly one on the job market, there is a marked difference in their demeanor relative to that of a first-year post-doc. Whereas, the latter discusses scientific matters as a range of possibilities, the senior post-doc tends to take a condensed and personalized approach. I believe that the post-doc period is meant to instill us with a very specific purpose; a charge, if you will. By the end of the appointment, it should be very clear what that purpose is, taking whatever scientific ideas are on the table and giving them a backbone that is representative of one’s niche. I consider this to be the scientific “platform” that one discusses when they are actively on the market applying for a professor position. A platform should be a simple and concise way to explain how one conceptualizes scientific problems and the technical approach to study them, but the foundation has all the blood, sweat, and tears that have aligned one’s thoughts to this charge. This inceptive-like quality is all the difference between talking science, and breathing life into it and making it “your own”. If the platform is not at the forefront of one’s mind whenever you sit down to write a grant, a manuscript, or virtually any document on the docket, then it may be wise to think



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twice about accepting a PI position. Beyond stubbornness, this platform is really a protocol that simplifies complex interactions with collaborators, colleagues, students, etc. into something that can be studied in one's laboratory. In my opinion, this platform is what we are moving towards throughout the post-doc, as it is the "time-saver" during a period of time when there are not enough hours in the day.

I hope that I have provided a fair assessment of the importance of a post-doc in academia. My intention here was to address what I have been able to observe in my initial years as a post-doc, given my overarching goals. Overall, I believe it is an important milestone, the benefits of which are reaped continuously throughout one's career. The examples that I used here emphasize aspects of the post-doc that I feel are essential: that is, exploring technology, defining one's overarching goals/ timeline, and ultimately finding the "platform" that will guide the unique product from one's laboratory. I encourage the young readership to use these examples as a means to open dialogue, explore options, and develop tangible markers for their progress.

New Member Spotlight



Rumi Kato Price, PhD MPE

1) Why did you decide to join the NHSN?

First, I have had opportunities to mentor and supervise several postdoctoral fellows and graduate students of Hispanic heritage as the director of a NIDA T32 research training program and as a faculty member for the past several years. Since my home institution (Washington University) is located in the Midwest and also our School of Medicine has not developed a large research portfolio on Hispanic population research or racial/ethnic health disparity research on substance abuse, I felt that NHSN would provide needed intellectual and mentoring guidance and resources. Second, I have had many opportunities to interact with members of NHSN because I have been one of the original members of the NIDA Asian American and Pacific Islander (AAPI) Scholar Workgroup since 1999. NHSN provided an organizational development prototype for other NIDA Workgroups. Two annual NHSN conferences that I attended were not only very impressive but also sensitive to specific issues surrounding racial/ethnic minority



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researchers. Third, as part of AAPI research, my collaborators and I have been working on mixed race (racial admixture) in the U.S. population. This line of research cuts across racial categories and includes Hispanic populations.

2) *When and why did you become interested in Hispanic health research?*

As noted above, I have been informed of the NHSN leadership activities since 1999. I became interested in Hispanic research as part of interaction and knowledge of NHSN activities introduced to the NIDA AAPI Workgroup members and as I began examining mixed race issues in early 2000's.

3) *Briefly describe your current line of research.*

Most relevant to NHSN is the work to further explore racial/ethnic disparity in substance abuse and associated conditions with a focus on those of mixed heritage. I have presented work on racial/ethnic disparities on substance abuse, including the Hispanic population at the 2012 and 2014 NHSN annual meetings. Methodological and measurement issues of racial admixture as applied to the Hispanic population are difficult to sort out because the population admixture history of Hispanics dates back a way further than those of Asian or African descent. Nonetheless, I am hoping to further my research on why mixed race is at higher risk of substance abuse across all racial/ethnic populations. Other areas of my work include research on psychological trauma and posttraumatic stress disorder

(PTSD) that are highly comorbid with substance abuse.

4) *What is your ultimate dream in terms of your career? Have you already accomplished this?*

I actually never had one ultimate dream throughout my career to date.

5) *What is the most important lesson you learned as a graduate student?*

It is important to choose one's long-term career, not based on what is perceived as "hot" research, but based on what grabs you heart and mind most.

6) *What is the most important quality you look for in a mentor?*

The qualities that I look for in a mentor include: Fairness; Wisdom; Ability to treat everyone with respect; and at the same time, the ability to be decisive in providing critical feedback.

7) *What advice would you give on how to handle stress?*

Depending on the situation but some I would say are: "Sleep well" "It's like a surfing, just surf over waves", or "Spend this eve with your family" (assuming the cause of stress is related to work, not family).

8) *What is your cultural background and how did it influence your choice of career and/or research area?*



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I grew up in a central part of Japan during the period when this nation began enjoying economic prosperity. Though not in my family environment, students of the schools I went to were extremely competitive - a trait I learned to appreciate earlier on. My life changed when I came to University of California at Berkeley as an exchange student. After I came back to Berkeley having completed my undergraduate degree, I spend several years as a graduate student at Berkeley, which molded my life philosophy. There I also realized I enjoyed examining “extreme phenotypes” such as addiction and psychiatric disorders. My postdoctoral training at Washington University School of Medicine furthered my interest in pursuing a research career in these areas. To this day, people’s common everyday problems do not interest me as much as more extreme, and yet complex phenotypes, such as illicit drug addiction, suicide and PTSD.

9) *What do you do for fun?*

Nature conservation at a modest level. If I were a care-free graduate student now (alas, many moons ago!), I would apply for a position with a Mars exploration team, even if it is a one-way ticket. That would be the most fun thing I could think of doing in my lifetime.

Members in the Spotlight



Congratulations to Dr. Patricia E. Molina, current NHSN Chair, who was inducted as the President of the American Physiologic Society.

Please note: In the future, if you are interested in sharing your news regarding promotions, grants, publications, etc., we encourage you to please contact Allyson or Sandra.

International Front



Dr. Oralia Loza graduated from the University of California at San Diego and San Diego State University, Joint Doctoral Program in Public Health, Epidemiology, in

2009. Her doctoral training initiated her



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commitment to U.S.-Mexico border health. She is currently at the University of Texas at El Paso, situated on the U.S.-Mexico border, and focusing her research in substance abuse and risks for Hepatitis C, HIV, and STIs among migrants, transgender women, and other marginalized populations. In this issue, she shares with us her work where she examined drug use prevalence in a U.S.-Mexico border city.

Drug and Alcohol Use by Cross-Border Mobility and Immigrant Generation in a U.S.-Mexico Border City

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Federal agencies, such as the National Institutes of Health (NIH), gather substance use and abuse surveillance data in the United States and for individual states, however, data is not provided at the city level. There are no recent records on substance use for El Paso, Texas. Studies and reports indicate differences in rates of drug use and abuse by ethnicity (Gfroerer & Tan, 2003). While the sample is formed only by Hispanics, according to the 2010 census, 82.2% of El Paso county residents are Hispanic and 76.6% are of Mexican decent compared to 31.6% in Texas and 10.3% in the U.S. (U.S. Census Bureau, 2010).

One study among Hispanics in the region has been published among residents in the colonias neighboring the city of El Paso, substance abuse rates were similar to state

and national use rates in 2002-2003 (Wallisch & Spence, 2006). An earlier study among college students in El Paso, predominately Hispanics, indicates that more than half were currently drinking alcohol and nearly a quarter were using other substances with significant gender differences (Lawrence, 1998). Those are the only two published reports reporting substance abuse in the region.

In other cities, the rates of drug use among Hispanics vary by migration and immigration generation. In a study conducted in Tijuana, Mexico, rates of drug use among Mexican migrants in 2009-10 varied by migration stage (Zhang et al., 2015). The literature on immigrant integration calls for the comparison of social behaviors between different immigrant generations, that is those born in the U.S. versus those who came as minors, those born in the U.S., and those born to U.S.-born parents and grandparents (Ojeda, Patterson, & Strathdee, 2008; Portes & Rumbaut, 2014). Other researchers have found that acculturation has negative effects on drug use among some Hispanic sub-groups (Ortega, Rosenheck, Alegria, & Desai, 2000).

The aims of this study are to determine the prevalence of substance use in El Paso and determine if use differs (1) from state or national data, (2) by cross-border mobility, and (3) by immigration generation among sample of 837 Hispanic El Pasoans. Data collection followed a purposive sample over-representing three at-risk hidden populations: recent immigrants, the undocumented, and the homeless. These



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populations were reached through the efforts of over 150 students from the local university who are in a great majority deeply embedded within El Paso County during 2011 and 2012. We gathered data on drug use, immigrant generation and cross-border mobility, and other demographic characteristics.

Close to a quarter are first generation, 15.2% were 1.5 generation, 34.8% were second generation, and the remaining were third generation or higher. Regarding cross-border mobility, 41.9% indicated they crossed the border into Ciudad Juarez, Mexico. The use of any tobacco and cigarette use was reported by 17.5% of participants of all ages and 64.9% reported alcohol consumption, 64.4% did so in the last 30 days. Overall, 8.7% reported any current illicit drug use. Most of those, reported using marijuana (7.7%), followed by cocaine (1.8%), heroin (0.3%), spice (0.6%), and methamphetamine (0.5%). Participants reported perceiving alcohol or illicit drug use to be a problem for themselves (9.5% and 5.3%, respectively) or for their family (30.5% and 12.5%, respectively).

Those who crossed the border into Ciudad Juarez had higher rates of first or 1.5 generation individuals (38.4% and 20.6%, respectively) compared to those who did not cross (16.7% and 11.5%, respectively). Rates for cocaine use were higher among those who did not cross (2.7%) compared to those who did (0.6%). The proportion who reported they perceived their illicit drug use as a problem was close to twice as high for

those who crossed the border (7.1%) compared to those who did not (3.6%).

Immigrant generation was statistically significantly associated with age, gender, and cross-border mobility (p -values <0.05). Median age decreased by approximately 10 years as immigration generation increased (first, 1.5, and second or higher). Rates of cross-border mobility increased as immigration generation decreased.

There were significant associations between immigrant generation and use of alcohol, any drug by itself, marijuana, and cocaine in particular (p -values <0.05). As immigration generation increased, so did the proportion that reported using alcohol (60.2%, 66.4%, 74.0%), any illicit drug (4.4%, 6.5%, 11.3%), marijuana (4.4%, 5.7%, 9.7%), and cocaine (0%, 0%, 3%); while the proportion of those who reported they perceived their illicit drug use as a problem (10%, 5.6%, 3.3%; p -value <0.05) decreased as immigrant generation increased.

We find differences in rates of alcohol and drug use among our sample of Hispanics in El Paso with state and national rates provided by SAMHSA by age group: 18-25 versus 26+ years of age (SAMHSA, 2012) (Table 1). Rates of tobacco products and cigarette use were lower while alcohol use rates were higher in El Paso compared to Texas and U.S. rates for both age groups. For 18-25 year olds, any illicit drug use and marijuana use was lower in El Paso compared to Texas and U.S. while cocaine use in El Paso was half the rate of Texas and twice the rate for the U.S. Among those 26 years old or older, rates of any illicit drug



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and marijuana use were between Texas and U.S. rates and cocaine use in El Paso was 50% higher in Texas and over twice as high compared to U.S. rates.

This paper has shown how drug use in the border county of El Paso is not necessarily higher than that in Texas and the U.S. Most recent immigrants, including those who do cross the border have lower drug use rates than those who are second generation or higher and who are less likely to cross the border.

Given the availability and cheaper cost of drugs on the Mexico-side of the border, the results of this paper seem counter-intuitive. While drug trafficking is a major concern for border regions, our data indicates that drug use is not a major problem when compared to the rest of Texas or the United States as a whole. The findings illustrate that cross-border mobility is not significantly

related to substance use and in some cases is significantly associated with lower probability of drug use. These findings are consistent with research that indicates that new immigrants have better health outcomes compared to U.S.-born. These findings are also consistent for national data indicating substance-use prevalence rates were lower among foreign-born youth compared to U.S.-born (Gfroerer & Tan, 2003).

Study participants' reported drug use increases and perception that drug use is a problem decreases as immigration generation increases. This is consistent with national data among Latino adults indicating perceived health risk due to drug use is higher for immigrants compared to U.S.-born (Ojeda et al., 2008). This may be an example of how a change in culture norms due to acculturation may influence substance use and abuse (Ortega et al., 2000).

References

- Gfroerer, J. C., & Tan, L. L. (2003). Substance use among foreign-born youths in the United States: does the length of residence matter? *Am J Public Health*, 93(11), 1892-1895.
- Lawrence, P. A. (1998). Psychological risk factors and substance abuse among young adults: A comparison of non-Hispanic White and Mexican Americans. In J. G. Power & T. Byrd (Eds.), *U.S.-Mexico border health: Issues for regional and migrant populations* (pp. 32-51). Thousand Oaks, CA: Sage.
- Ojeda, V. D., Patterson, T. L., & Strathdee, S. A. (2008). The influence of perceived risk to health and immigration-related characteristics on substance use among Latino and other immigrants. *Am J Public Health*, 98(5), 862-868. doi: 10.2105/AJPH.2006.108142
- Ortega, A. N., Rosenheck, R., Alegria, M., & Desai, R. A. (2000). Acculturation and the lifetime risk of psychiatric and substance use disorders among Hispanics. *J Nerv Ment Dis*, 188(11), 728-735.
- Portes, A., & Rumbaut, R. n. G. (2014). *Immigrant America : a portrait* (Fourth edition, revised, updated, and expanded. ed.). Berkeley and Los Angeles, California: University of California Press.
- SAMHSA. (2012). Model-Based Prevalence Estimates (50 States and the District of Columbia), National Survey on Drug Use and Health, 2011 and 2012 *Center for Behavioral Health Statistics and Quality*. Washington, D.C.: Substance Abuse and Mental Health Services Administration (SAMHSA).
- U.S. Census Bureau. (2010). Community Facts. City of El Paso, TX. Retrieved August 5, 2014, from http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml
- Wallisch, L. S., & Spence, R. T. (2006). Alcohol and Drug Use, Abuse, and Dependence in Urban Areas and Colonias of the Texas-Mexico Border. *Hispanic Journal of Behavioral Sciences*, 28(2), 286-307. doi: 10.1177/0739986305286137



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Zhang, X., Martinez-Donate, A. P., Nobles, J., Hovell, M. F., Rangel, M. G., & Rhoads, N. M. (2015). Substance Use Across Different Phases of the Migration Process: A Survey of Mexican Migrants Flows. *J Immigr Minor Health*. doi: 10.1007/s10903-014-0109-5

The project was approved by the National Institute on Minority Health and Health the Disparities and by the university's IRB [Ref# 271104-1].



Presently in El Paso, TX, there are no evidence-based harm reduction approaches in place given the ban at the state level. In Cd. Juarez however, NGOs such as Programa Compañeros have been running needle exchange programs to injection drug using populations.

Photo: Oralia Loza, Ph.D.

2014_05_31_Cd Juarez_METH PILOT STUDY, Site Visit, Programa Companeros IDU Harm Reduction Outreach



In this photo, we can see the proximity of the UTEP Campus to Cd. Juarez, CHIH in this truly a binational region.

Photo: Oralia Loza, Ph.D.
2011_09_25_EP_View of UTEP & Juarez



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TABLE 1: Drug Use in Past Month in El Paso (EP), Texas (TX), and United States (US) in 2011-12

	18-25			26+		
	EP	TX	US	EP	TX	US
Any Tobacco Products	19.3%	35.7%	38.8%	16.3%	24.7%	26.7%
Cigarette	16.5%	31.0%	32.7%	14.6%	20.5%	22.1%
Alcohol	73.1%	56.6%	60.5%	66.9%	51.9%	55.3%
Any Illicit Drugs	13.9%	16.9%	21.4%	5.5%	4.9%	6.7%
Marijuana	12.9%	13.8%	18.9%	4.5%	3.3%	5.1%
Cocaine *	2.3%	4.2%	1.1%	1.4%	0.9%	0.6%

Note: Data for El Paso is self-report and does not specify a time frame for use.

* Cocaine use in the last year reported for TX and US



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