How to Be a Good Ally: A Guide to Dismantling Colorblindness, White Normativity, and Everyday Racism without Erasing Oppressed Voices

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UW Honors Program
Mentor: Rachel Sanders, Political Science

In light of recent events in Ferguson, MO and in the larger context of the Black Lives Matter Movement increasingly coming to the attention of mainstream society, I have encountered many friends, colleagues, and peers who feel too paralyzed to talk about racial and gender inequality, or who engage in conversations about these subjects in problematic ways. The question arises: how does one speak up and speak out against discrimination when one does not belong to groups that experience those oppressions? How does one speak without contributing to the erasure of oppressed voices? I argue that while speaking for others may contribute to erasure, it is far worse not to speak up at all, and there are more effective ways to be an ally. Using salient texts from Critical Race Theory and Feminist Theory, as well as social justice and feminist media outlets run by Women of Color (such as Everyday Feminism, Black Girl Dangerous, and Urban Cusp), I have fashioned a theoretical toolkit to disclose both contexts in which speaking out is or is not appropriate and how one might speak out against oppressions in conscious and responsible ways. Using these texts as a critical framework, I also analyze and provide potential responses to common mistakes (including discursive imperialism and microaggressions) that even well-meaning allies can make. Ultimately, my project seeks to interrogate colorblindness, facilitate respectful interactions when addressing systematic oppression, and encourage those in dominant social groups to venture outside spheres of privilege to engage thoughtfully in conversations with members of oppressed groups.

Mutations in Key Residues Enhance the E3 Ubiquitin Ligase Activity of BRCA1/BARD1

Ernesto Coronado, Recent Graduate, Biochemistry, University of Washington
Mentor: Rachel Klevit, Biochemistry
Mentor: Mikaela Stewart, Biochemistry

Breast cancer 1, early onset (BRCA1) is a human tumor suppressor gene that encodes breast cancer type 1 susceptibility protein (BRCA1). BRCA1 contains a zinc-coordinating RING (Really Interesting New Gene) domain that interacts with the RING domain of another protein, BRCA1-associated RING domain protein 1 (BARD1), forming a heterodimer. This complex has been shown to function as an E3 ubiquitin ligase and plays an important role in DNA repair. In the final step of the ubiquitination pathway, BRCA1/BARD1 catalyzes the attachment of ubiquitin to a lysine residue on the substrate protein. This event tags the substrate protein for a number of potential fates, such as degradation by the proteasome, or relay to sites of DNA damage. When tumorigenic amino acid substitutions are introduced into BRCA1, the DNA damage repair function of the complex is disrupted. It has been established that a stable BRCA1/BARD1 complex is necessary for the efficient tumor-suppressing function of BRCA1. In order to gain more knowledge about the dynamics of this complex, we performed the following studies. Hyperactive variants of BRCA1/BARD1 were identified through a mutational screen. These BRCA1/BARD1 mutants were generated in the context of the enzymatic domain of the heterodimer, expressed in Escherichia coli, and purified. Ubiquitin chain-building assays were conducted *in vitro*. We found that mutations in key residues enhance the E3 ubiquitin ligase activity of BRCA1/BARD1. We used nuclear magnetic resonance imaging to assess possible structural changes caused by the amino acid substitutions. The hyperactive variants identified through these studies will be used in future studies to identify the cellular targets of BRCA1/BARD1. Moreover, these methods could be used to study the function and targets of other medically relevant E3 ubiquitin ligases, and the knowledge we gain from these studies could be used to potentially overcome the loss of function from inherited mutations.
The Role of Cysteines in the Structure and Function of a Human Small Heat Shock Protein

Bobby Shih, Senior, Chemistry (ACS Certified), Biochemistry
Mentor: Rachel Klevit, Biochemistry
Mentor: Amanda Clouser, Biochemistry

Cells are exposed to a wide array of stressful environments and must maintain protein homeostasis to survive. When the cell is under stress, proteins will misfold and aggregate, leading to cell death and potentially disease. Small heat shock proteins (sHSPs) are a class of molecular chaperones that have been shown to maintain aggregation-prone proteins in a soluble state. sHSPs are important in maintaining protein function, as they are found ubiquitously in archea, bacteria, animals, and plants, often upregulated in response to stress. In humans, mutations in sHSPs have been linked to several classes of severe diseases, such as Charcot-Marie-Tooth disease, distal motor neuropathy, and cataracts. sHSPs are a large and diverse family of proteins distinctive in their ability to form large and small oligomers, however much is unknown as to how these oligomers are formed and the various properties of sHSPs. The Klevit lab aims to better understand the molecular interactions of human sHSPs, how these sHSPs are activated in cellular conditions, and how they recognize and bind misfolded proteins. My work focuses on the structure and function of the human sHSP, HSPB8. The placement of cysteines throughout the protein suggests the ability to coordinate metal ions, which is known to be critical for regulating the structure and function of several proteins. By mutating these cysteines and adding metal ions, I am evaluating the role of each cysteine in dimer formation, the prevention of aggregation of a model aggregation-prone protein, as well as their potential role in the ability for HSPB8 to bind metal. Using various biophysical techniques and functional assays I will develop an understanding of the molecular interactions responsible for dimerization and chaperone function of HSPB8.

SESSION 2F

TESTING PERSPECTIVES AND POSITIONS FROM THE GROUND UP
Session Moderator: Michael Vicente Perez, Anthropology
238 MGH
3:30 PM to 5:15 PM
* Note: Titles in order of presentation.

Carrying Home: West Indian Women’s Lived Reproductive Experiences of Immigration
Shamelle Richards, Senior, Anthropology: Medical Anth & Global Hlth
Mentor: Rachel Chapman, Anthropology

For West Indian women, the immigration journey’s “search for a better life” is commonly constructed as being positioned at the center of two competing yet co-determining axes – on the one hand, labor, and on the other, sacrifice. The privilege of economic citizenship in the developed world is understood to come at the cost of a fragmentation of the ex-
tended family structure upon which West Indian society is built. Missing from this discourse are West Indian’s women’s own narratives, those stories that move migration theory from an abstract understanding of the migration experience to a complex accounting of the multiplicity of personal motivators, social forces, and institutional agendas that shape the migration journey. Further complicating the story of West Indian women’s migration is their disproportionate vulnerability to adverse reproductive health outcomes, including preterm births, gestational diabetes, and low birth weight infants. Existing literature has failed to examine comprehensively the reasons for West Indian women’s risk for these negative health outcomes. This exploratory study addresses these gaps by embracing a theoretical perspective of embodied transnationalisms, which directs this research in its goal of uncovering the associations that West Indian women make between their states of reproductive health and the physical and social geographies of migration. A phenomenological approach is used to layer the life, migration, and reproductive health histories of the study’s participants into a rich, multidimensional narrative. Drawing on alter/native and autoethnographic research methods, the researcher is both participant and investigator, her life history forming one of the study’s case studies. What emerges from these women’s narratives is a story about the transformation of vulnerable reproductive spaces into spaces of resistance. This study opens up a space for analytic autoethnographic methods within migration theory and provides a patient agency-based model for providers attending to the health care needs of migrant women.

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**SESSION 2M**

**ISSUES IN PSYCHOLOGY**

*Session Moderator: Steven L. Buck, Psychology*

288 MGH

3:30 PM to 5:15 PM

*Note: Titles in order of presentation.

**Eating for Who?: Accounting for Disordered Eating, Distress, and Resilience in Maternal Postpartum**

**Narratives of Pregnancy and Birth**

Fiona Stefanik, Senior, French, Anthropology

Mary Gates Scholar, UW Honors Program

Mentor: Rachel Chapman, Anthropology

It is well documented that women's bodies face multiple forms of trauma. In the United States, for example, eating disorders affect nearly 10% of the female population and account for the highest mortality rate of any mental illness. Additionally, between 20% and 48% of women who have given birth describe the experience as traumatic. Previous studies of risk factors for intrapartum trauma and eating disorder etiology identify similar risk factors for both experiences, such as negative interpersonal relationships, lack of communication and emotional support, loneliness, powerlessness, perceived or actual loss of control, and heightened vulnerability. However, despite uniformity in conditions provoking distress related to these two experiences, the experience of having an eating disorder and of giving birth have never been compared as the purpose of any study. Because of this research gap, it is likely that many women may be significantly underserved in birth. By using a framework that engages theories regarding distress, healing, rites of passage, performance, embodiment, and feminism as they intersect in bodies at birth, this research explores how women with histories of disordered eating experience pregnancy, birth, and postpartum. Eight semi-structured oral life history interviews were conducted with women who were given clay and asked to sculpt their bodies at key moments during their life history. The life history of the researcher was also analyzed alongside the life histories of the participants in order to more holistically understand the ways in which sufferers of eating disorders experience distress and processes of healing. Analysis of the life histories and body sculptures reveals connections between the ways in which eating disorders and reproduction are experienced. This research demonstrates that while pregnancy, childbirth, and the postpartum period have the potential to propel women into suffering related to disordered eating, these experiences also hold the potential for healing.

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**SESSION 2R**

**ISSUES AND IDEAS ABOUT HEALTH AND PUBLIC HEALTH IN THE PACIFIC NORTHWEST: PAST TO PRESENT**

*Session Moderator: Jack Berryman, Bioethics and Humanities*

111 JHN

3:30 PM to 5:15 PM

*Note: Titles in order of presentation.

**Wrecked and Okay: Sexual Assault Healing and Organic Advocacy at the University of Washington**

Maya Makaye (Maya) Monroe, Senior, Anthropology:

Medical Anth & Global Hlth

UW Honors Program

Mentor: Rachel Chapman, Anthropology

Rape is a universal violation. Nationally, it is estimated that one in five women in the United States will experience rape in their lifetime. At the University of Washington, between 25% and 40% of students have experienced sexual violence, but only 1 person reported rape to the UW police department in 2013. These data come at a time when there is increased attention to universities across the U.S. due to violations of
Title IX. Title IX, among other things, requires universities to dedicate set rights and resources for survivors of sexual assault and rape. While most universities have complied, the Department of Education has been negligent in the following: 1) enforcing codes, and 2) holding universities to standards of efficacy and usability. As a result, an unknown number of survivors have grown the confidence to report and been denied prosecutorial rights and sufficient support systems (demonstrating that survivors are unheard and unsupported both nationally and locally). In an effort to observe why students aren't accessing support on UW's Seattle campus, the goals of this research were threefold, to 1) understand UW students perceptions of support agencies, 2) create a baseline evaluation of resources for survivors on campus, and 3) examine what structures could be placed in collaboration with existing resources to increase support. To do this, methods included putting the data in conversation with the author's experience of support agencies (autoethnography), an informal examination of student networks, and formal interviews with support agencies on campus. What emerged was evidence of organic student advocacy (resource seeking amongst networks), doula disclosure (organic advocacy encouraging discussion and healing), and an institutional intent to support that encountered barriers to bridge building. Ultimately, it will serve as a portrait of a campus struggling to overcome barriers between structured support and those they seek to support.

**POSTER SESSION 3**
Commons East, Easel 74
2:30 PM to 4:00 PM

**Prednisone Pharmacokinetics during Pregnancy and Lactation**

Brooke Carina (Brooke) Bennett, Senior, Biochemistry
Mentor: Mary Hebert, Pharmacy
Mentor: Rachel Ryu, Pharmacy

Prednisone is a medication that reduces inflammation and inhibits activity of the immune system. Many conditions can warrant its use in pregnant and lactating women, so understanding the pharmacokinetics of prednisone, how the body handles the drug, during pregnancy and lactation is important for choosing the best dose. Therefore, the objective of this study was to evaluate the pharmacokinetics of prednisone and its active metabolite, prednisolone, in pregnant and lactating women. Nineteen women received oral doses of prednisone ranging from 2 to 40 mg per day in early- (n=3), mid- (n=9), and late-pregnancy (n=13), as well as postpartum with (n=2) and without (n=5) lactation. Blood and urine samples were collected over one dosing interval from all participants, and breast milk was collected from those who were lactating. Concentrations of prednisone and prednisolone were used to calculate pharmacokinetic parameters. The apparent oral clearance, the rate the body clears oral drug, of both prednisone and prednisolone significantly increased between the 5 and 20 mg doses. Higher concentrations of prednisone and prednisolone resulted in higher percent unbound in plasma. These data are consistent with dose- and concentration-dependent pharmacokinetics of prednisone and prednisolone due to concentration-dependent plasma protein binding. Unbound prednisolone’s terminal half-life, the time it takes to clear half of the drug, was prolonged in pregnancy compared to postpartum. Other parameters were unchanged, however, suggesting that dose adjustments may not be necessary during pregnancy. The ratio of breast milk to plasma drug exposure ranged from 0.49 to 0.57 for prednisone and 0.019 to 0.030 for prednisolone. Infant exposure to prednisone and prednisolone was 0.35 to 0.53% and 0.09 to 0.18% of the mother’s weight-adjusted dose, respectively. This suggests that oral prednisone administration is compatible with breastfeeding.

**POSTER SESSION 4**
Commons East, Easel 82
4:00 PM to 6:00 PM

**The Effect of Female Labor Force Participation on Domestic Violence: Evidence from Colombia**

Fabiha Ibnat, Senior, Economics, Business Administration (Information Systems)
Mary Gates Scholar
Mentor: Rachel Heath, Economics

While increased female labor force participation has many positive implications, it may also have unintended negative consequences for women, such an increased risk of experiencing domestic violence. Our research aims to see whether there is a positive correlation between women’s labor force participation and the physical or sexual violence they face in the household, using wage, industry, and violence data collected from twenty-four regions in Colombia over eight years. We began by constructing a measure of random variation in labor demand to ensure that it was unrelated to changes in regional labor supply, thereby reducing potential endogeneity problems. Next we constructed two fixed effects regression models that estimated the relationship between work and each type of domestic violence. We found that there is a positive correlation between work and physical violence, but only among women with less education. We then altered our models to test the possibility that other measures of a woman’s initial level of bargaining power affects her likelihood of experiencing sexual violence upon entering the labor force. We are currently testing various violence theories that could explain why some working women are unable to leverage their increased intra-household bargaining power in order to reduce the violence they face. Ultimately, our findings have important implications for policymakers interested in women empowerment. In areas that experience job expansions for
women, particularly those jobs that hire women with low education, policymakers should consider providing resources and programs that help reduce the increased domestic violence women may face.