

## Capstone for Impact Submission | GY2019

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**Project Title:** Associations Among Domestic Violence Exposure, Depressive Symptoms, and Substance Use Among Adolescent Residents of Urban Detroit

**Student Name(s):** Sturdavant, William

**Advisor Names(s):** Dr. Dayna Leplatte-Ogini

**Branch:**

**Path of Excellence:** Global Health and Disparities

**Handover/Transition:**

If this project can be continued by another UMMS student, you may contact them at the following email address/phone number (N/A if project cannot be handed over): **N/A**

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**Summary:**

I worked with Dr. Leplatte, Dr. Brent Williams, Dr. Valenstein, Lisa Johanon (the director of the Central Detroit Christian Community Development Corporation), Andrea Matthew, and others to develop and execute a summer research project to investigate the prevalence of domestic violence exposure (DVE) among adolescents in Detroit, its association with substance use and depression, and knowledge of local resources available for concerns related to these areas.

In addition to assessing the prevalence of the above factors, educational lectures were developed and given every Friday morning of the program, with each week covering basic information on one of the topics and the local resources available to residents of Detroit. Participants were members of the CDC-CDC summer employment program for adolescents in the area. Participation was voluntary, anonymous, and participants were made aware of the ability to drop out of the study at any time. The survey tools used at the beginning of the summer employment program were then re-administered at the end of the program to assess for significant changes in the studied variables. Andrea and I also worked alongside the summer employees when not providing lectures or administering surveys.

The study itself revealed a high prevalence of DVE and a positive correlation between having ridden in a car with an intoxicated driver and DVE exposure among the summer employment program participants. Due to difficulties with a small sample size, unexpectedly high employee turnover, and difficulty administering the survey on the final day of the program, the final survey data was difficult to interpret and consequently pre and post comparisons did not reveal any additional correlations. The greatest lessons learned, however, came from working alongside the participants and learning more about them as individuals. As discussed in the

below “lessons learned” section, this proved invaluable in confirming my commitment to assessing, addressing, and minimizing health disparities as a future healthcare professional.

### **Methodology:**

- Survey designed using:
  - Questions from the Juvenile Victimization Questionnaire, Revision 2 (JVQ-R2)<sup>3</sup>
  - The Patient Health Questionnaire for Adolescents (PHQ-A)
  - Questions adapted from the Car, Relax, Alone, Forget, Friends, Trouble (CRAFFT) screening tool
- 43 participants of the CDC-CDC employment program given survey anonymously
- Participant demographics: 42 African American, 1 White, all age 14-20
- Responses divided into groups based on depressive symptomatology and recent substance use
- Two-sampled t-tests were used to determine any significant differences in DVE between the groups

### **Results/Conclusion:**

Results:

- Participants who admitted to ever riding in a car driven by someone under the influence of substances scored on average 1.9 points higher ( $p=0.018$ ) on DVE than their peers.
- Admitting to substance use within the past year was more weakly associated ( $p=0.09$ ) with a 1.4-point increase in DVE.

Conclusions:

- The high prevalence of DVE among urban youth presents great opportunities for intervention for health professionals
- Admission of having ridden in a car with someone under the influence may prompt further investigation into possible DVE
- Further investigation, with larger sample sizes, is needed to investigate the weaker association between DVE and recent substance use
- The lack of association of DVE and recent substance use and depression may indicate the resilience of this adolescent population
- While these findings are preliminary and require further study with larger sample sizes, this presents exciting implications for improvements in screening for DVE, depression, and substance use

### **Reflection/Lessons Learned:**

After working with Dr. Leplatte, Dr. Williams, Lisa Johanon, Andrea, and many others to investigate the prevalence and psychological sequelae of domestic violence exposure in Detroit, I feel that I have not only

learned a great deal, but that I have grown both personally and professionally. I was lucky enough to be involved with research that exposed me to people and situations I rarely face in my usual day-to-day life. Overall, I feel that these experiences have allowed me to benefit greatly and learn how to better address health disparities in the future.

My summer experience taught me a great deal of lessons for now and the future. My growth wasn't limited solely to the summer; much of my learning occurred long before the summer began. As Andrea and I worked with many others to make the most out of our summer opportunities, we were involved with every aspect of project development and approval. Personally, I feel that the most important lesson I learned during development was the process of acquiring IRB approval. This was, in all honesty, time consuming and frustrating. Because of this, however, I'll never forget the importance of starting the process of IRB approval and establishing a line of communication early. This also taught me a great deal of the dos and don'ts of research involving adolescents and the importance of compromising ambitious research design with practicality. Overall, I feel this has well-prepared me for any future project development that I may be involved in.

During the summer, I had the opportunity to dive directly into the world of the Central Detroit Christian Community Development Corporation (CDC-CDC) and its summer employment program. I was allowed to live on-site for the entire month and work alongside adolescent participants of the CDC-CDC's employment program. Through Lisa Johanon I was able to learn a great deal of what goes on behind the scenes in such an organization. Working with the participants daily allowed me to learn their stories and more about what daily life was like in this part of Detroit (most of the participants lived within a few blocks of the CDC-CDC headquarters). Every week, Andrea and I would work with community based organizations (CBOs) to provide lectures on mental health, substance use, and domestic violence. We were able to provide warning signs, help resources, and effective methods of disclosure to professionals in our lectures. This required us to become highly adaptable in a classroom-like setting and allowed us to learn more about resources for these topics ourselves.

The final lesson I learned during my summer experience was on the very last day of the summer employment program. Andrea and I had planned to administer a survey to measure the results of the lectures we had given throughout the month. Unfortunately, due to an unexpected crisis, we were left alone at the last minute to attempt administering the survey to the approximately 60 adolescent participants. This made administration of the survey very difficult and made our data from this survey irreconcilable. Nobody involved could have anticipated this situation, least of all Andrea or me. It did teach us an important lesson in working with CBOs, however: when working with and assisting such large populations, CBOs like CDC-CDC often face unexpected crises and need to adapt accordingly. Unfortunately, Andrea and I had not anticipated this and left no room for ourselves to adapt in such a situation. Looking forward, planning for situations like this by allowing for more time for each step of the project will be something I will do whenever possible.

The most meaningful aspects of my summer experience came from the lessons above and the ability to meet many people I would normally have not had the opportunity to work alongside. If I had to pick the most meaningful aspect of the entire experience, it would, without hesitation, be the opportunity I had to speak with the adolescent participants of the program. I did this not as a researcher, medical student, or other professional, but as a co-worker. I'm not so naive as to believe I was able to blend in, but working with them as a co-worker as opposed to working as a representative of the CDC-CDC administration or UM seemed to open lines of communication as I worked at the various sites at the CDC-CDC. I heard about parties going

on in the area, what television shows and movies were popular, local gossip, and their ambitions. This last point is what I saw as the most meaningful to me. Despite the complicated backgrounds that many of them had, the ambitions they had for future careers and accomplishments were absolutely inspiring. The resilience evident in their ambitions and attitude inspires me even now to remove health disparities as a predictive factor of their success.

This project has large implications for my future work, both practically and motivationally. As mentioned above, learning the process of developing a project that involves research in health disparities will assist me greatly in developing more projects like this in the future. Even more than this, I am emboldened to make a difference in the lives of those facing health disparities. This passion will undoubtedly inform my future projects, both as a medical student and as a physician. The positive and difficult aspects of this project have all better prepared me for the future and I intend to use the lessons I've learned as much as possible.