March 3, 2014

Dear Selection Committee,

Through this letter I would like to convey that I give my highest level of support to Logan Carney for the Undergraduate Research Library Award. Logan is a senior pre-medicine undergraduate student and I first met him in the Fall of 2013 in my BIO 548 Vertebrate Physiology class. This is a challenging upper division class, in which, he nearly made a 100%. This is a common theme mentioned from classes of other professors in the Biology Department. Logan is not only an exceptional student, but a researcher as well. He approached me after class with the interest of conducting a research project in the medical field. I observed that Logan was a wide-eyed, intelligent, and hard-working student. It was obvious to me that Logan had the intelligence and drive to be involved with a biomedical research project. I suggested a medical based project relating the pitch/intensity of screaming children in a doctor’s office to hearing pain and loss in occupational workers and parents/guardians. He quickly volunteered to lead the project and I was excited that he did because this was a side-project of mine that I did not have time to work on and really would not have finished if he did not approach me and show interest in it. So, I offered the project to Logan both to benefit me and to give him an opportunity to gain experience with a research project. Logan volunteered on the project the Fall 2013 semester and is now enrolled this semester (Spring 2014) in BIO 598 (Independent Research course) with me to finish up the project.

This medical research project is very unique for me as it does not rely on conducting laboratory bench-top research, but is highly reliant on library resources and literature searches. Hence, I feel that this is an appropriate project to apply for the Undergraduate Research Library Award and I am excited for Logan to apply for the award. Additionally, after every mentoring meeting we had, I would commonly say go to the library and use the resources there to help you. I have to say I was more hands off during is project than I have ever been before, as the project is really a Library based project.

Logan used the library resources to perform literary searches on-line (web and pubmed searches), guidance with the use of excel (tables and statistics), and with writing and entering reference citations. First off, the project is founded upon its references. We had the screaming intensity of the children during a routine ear exams measured at an Otolaryngologists office, however, we had to find out what it meant. So, based on the literature we were able to find a scale of other sounds to compare the pitch of children too. And we found that the sound
intensity was comparable to a rock concert and louder than a chainsaw and drill. Additionally, we found that the sound range of the cries is in the range commonly noted to be associated with ear pain and discomfort leading to tinnitus. Additionally, we referenced NIOSH (National Institute of Occupational Safety and Health) and OSHA (Occupational Health and Safety Administration) to state what the allowable sound levels for workers to be exposed to were. In which we found that some of the sound levels reached during the study fell within the category that is recommended to avoid for exposure. Taken together, all of the above indicates Healthcare workers and parents/guardians are exposed to sound intensities that can be harmful and damaging to the ear and additionally, this could be associated with child abuse by a parent/guardian of an excessively crying child.

Secondly, Logan used the computers and personnel at the library to teach him how to work excel. He had to create the tables in the paper and I asked him to graph the averages/standard deviation of the scream intensity and ages of the children used in the study. The graphs did not make it to the final journal article but the findings were stated in the paper. Using excel was quite a challenge for Logan, as he had never made a graph with standard error bars included in it before. But, Logan went to the library and got assistance to help guide him on working in excel and making graphs. And he did successfully make professional looking graphs.

Thirdly, Logan had to learn how to put a journal article together (meaning write the journal article and put in the citations). Our final article “The cry of the child and its relationship to hearing loss in parental guardians and health care providers,” will be submitted in April to the Journal of Social Work in Public Health. During this phase of the project I asked Logan to become familiar with the writing styles of other articles submitted in this field of research and learn how to cite the references (APA, American Psychological Association style for the journal). I have to say Logan did a fantastic job, and I really have not had to spend too much time editing the paper. At the beginning of this academic year I would not have believed that I would have an undergraduate student take on this project and get it prepared for submission in such a short amount of time.

I feel that Logan has succeeded in all my BIO 589 course objectives as he has become distinguished in analyzing data, scientific writing, literary searches, and reference citation. I feel Logan has learned a lot about the field of medical research and journal writing through this project. And through this project I believe it has opened his eyes to the possibilities in his chosen field as a physician from not only seeing patients to now conducting research studies while being a physician. Logan is easily the best undergraduate student that I have worked with and his dedication and writing skills are the strongest I have seen in an undergraduate student. It has been a pleasure to work with Logan and I am personally excited to see where Logan’s career leads. And I thoroughly have to thank the resources and personnel at the Library as they were true mentors for Logan and this project.

Sincerely,

[Signature]

Lindsay E. Calderon, PhD

[Logo]

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