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Application Summary

Competition Details

Competition Title:	STAMPS Impact Prize (SIP) - Fall 2023 Solicitation
Category:	Internal Grants
Cycle:	Special
Submission Deadline:	11/1/2023 11:59 PM

Application Information

Submitted By:	Dylan Barker
Application ID:	2350
Application Title:	Clean Air Project (UM-CAP)
Date Submitted:	11/1/2023 9:18 AM

Personal Details

Applicant First Name:	Dylan
Applicant Last Name:	Barker
Email Address:	
Phone Number:	
Student Classification:	Senior
Major/Program of Study:	B.M.D.S. in Political Science, Public Health, and Anthropology
Student ID #:	
Student Employee ID #:	

Application Details

Proposal Title

Clean Air Project (UM-CAP)

Comments to the Administrator(s)

UM Faculty Mentor Name

Dr. Allison Ford-Wade

Mentor's Department

Public Health

Mentor's Email Address

Ford@olemiss.edu

Earliest Start Date

Barker, Dylan - #2350

01/29/2024

Latest Start Date

02/5/2024

Project Description

Included in uploaded doc

Impact

Included in uploaded doc

Roles of Student and Mentor

Included in uploaded doc

Timeline

Included in uploaded doc

Budge and Budget Justification

Included in uploaded doc

Student Information:

- Student Name: Dylan Barker
- Classification: Senior
- Area of Study: Multidisciplinary Studies in Public Health, Political Science, and Anthropology
- Faculty Mentor: Dr. Allison Ford-Wade

Project Description

Title: University of Mississippi Clean Air Project (UM-CAP)

Introduction

In a world where clean air is a fundamental necessity for good health, this initiative stands as a beacon of proactive change. Our goals are clear: to improve air quality, educate our local schools, empower the next generation, and enable others to replicate our success. We approach this project with enthusiasm, determination, and a deep commitment to public health. With these objectives in mind, we're eager to make a positive impact on the immediate well-being of our community and, in the process, inspire a broader movement for cleaner air and healthier lives. In the following sections we will explore this project's core objectives and our aim to engage with and empower communities to act in ensuring their own health.

Project Objectives

1. DIY Corsi-Rosenthal Boxes: The primary objective of this project is to construct Corsi-Rosenthal Boxes. These DIY air purifiers are cost-effective and easy to assemble. They will be distributed to local schools to serve as effective tools for improving indoor air quality, thereby fostering better health.
2. Community Empowerment: A significant portion of the project will be dedicated to producing a comprehensive “tool-kit” or replication guide to be shared with the Mississippi Public Health Ambassador Initiative. This guide will detail the project's methodologies, best practices, and lessons learned. It will serve as a valuable resource for teachers, school administrators, community leaders and air quality professionals, enabling them to replicate this project successfully in other communities.
3. Hands-On Participation: To foster a sense of ownership and pride among students, we will engage Oxford Mississippi middle and high school students in the process of building Corsi-Rosenthal Boxes. By actively participating in constructing these air purifiers, students will develop a personal investment in their own public health efforts.
4. Educational Component: In addition to constructing Corsi-Rosenthal boxes, our project includes an educational outreach component to raise awareness about the importance of clean air. We will provide educational samples and resources to students and teachers, empowering them to incorporate discussions about air quality and public health during the distribution of the constructed Corsi-Rosenthal boxes.

Project Execution (Three Phases)

Phase 1: Outreach and Education

- a. Partner with local schools and teachers.
- b. Share practical tips on maintaining clean indoor air.

Phase 2: Corsi-Rosenthal Box Assembly

- a. Organize hands-on workshops with students, guided by project volunteers from the Public Health Student Association (UM-PHSA).
- b. Provide all necessary materials and instructions for the construction of Corsi-Rosenthal Boxes.
- c. Encourage students to actively engage in the assembly process
- d. During the Corsi-Rosenthal Box assembly, the Public Health Student Organization member will be given various talking points to share with the high school students about the following:
 - 1) What is public health?
 - 2) Discussing public health initiatives such as this project and air quality.

Phase 3: Distribution and Monitoring

- a. Distribute the constructed Corsi-Rosenthal Boxes to the participating classrooms.
- b. Monitor the impact on air quality through measurements and feedback from the school.
- c. We plan to implement a focus group comprised of educators and members of the UM-PHSA to review the performance of the project and the efficacy of the Corsi-Rosenthal boxes, this focus group will enhance the project's ability to gather valuable feedback and insights from educators and members of UM-PHSA, which can contribute to refining the project's performance and achieving its goals more effectively.

Expected Outcomes

This project expects to achieve these immediate outcomes:

- Improved air quality in local schools, leading to better health outcomes for students and teachers, This will be measured by utilizing indoor air quality monitors. 10 classrooms will be randomly sampled and air quality will be measured before and after the implementation of the Corsi-Rosenthal boxes.

Impact

Receiving this award is not just an opportunity; it would be a transformative moment in my educational journey. This award will provide me with the resources to turn my aspirations into a plan of action. As a student of public health during the COVID-19 pandemic, I found myself deep in online textbooks and virtual lectures, learning about and seeing firsthand the vast implications of air quality on public health outcomes. However, this project will be a real-world test where I can apply the knowledge I've gained through my studies. Constructing Corsi-Rosenthal boxes and educating local students about the importance of clean air is an embodiment of public health principles in action. I have taken courses that emphasize the importance of community-based initiatives, and this project will bring a sense of meaning to my studies, turning theory and concepts into practical solutions.

Furthermore, this award will amplify my ability to make a lasting impact on the community. By directly engaging with local schools and students, I'll be able to not only share my knowledge, but also inspire young minds to take an interest in public health. I currently work with an NIH funded near-peer mentored after-school program that introduces high school students to health sciences and STEM fields. Through my work with this after school program, I have seen how building these DIY air filters alongside an educational curriculum can succeed at inspiring young students to take an interest in public health. This is an opportunity to spark curiosity on a larger stage, instill a sense of responsibility, and encourage more students to consider careers in health sciences, furthering the reach and impact of our field. The effect of this educational experience will extend far beyond the duration of the project, positively influencing the lives of those involved and potentially shaping the future of public health in our community.

Moreover, this award aligns perfectly with my interests in community service and social responsibility. It allows me to give back to the community while pursuing my education. Being a part of a project that improves the immediate environment and educates young minds about their health empowers me with a sense of purpose. It will reinforce my commitment to social responsibility and my belief in the positive change that can be achieved through education and collective action in public health.

In conclusion, the STAMPS award will be a defining element of my academic career. It will profoundly influence my educational experience by advancing my education, abilities, and interests. This project will allow me to bridge the gap between knowledge and practice, empowering me to apply my public health education in a meaningful way that gives back to my community. This project has the potential to inspire young students, develop my leadership skills, and reaffirm my commitment to community service that resonates with my values and professional goals. This award will significantly advance my education, abilities, and interests, setting a standard for the impact that students and future public health professionals can make.

Student and Faculty Mentor Roles:

As the student initiator, my role in the project design and implementation will be multidimensional. I will serve as the driving force behind the initiative, translating my passion for public health into action. My responsibilities include project planning, coordination, and hands-on participation in building Corsi-Rosenthal boxes.

Additionally, I will be responsible for connecting with the Public Health Student Association to ensure collaboration. This project will enhance my leadership and project management skills. Being responsible for coordinating the construction of Corsi-Rosenthal boxes, along with educational outreach, will require effective organization, communication, and teamwork.

Dr. Ford-Wade's role in the project as my mentor is to provide guidance, support, and expertise. She offers insights based on her experience in public health and community engagement, helping to refine the project's objectives and strategies. Furthermore, Dr. Ford-Wade will play a critical role in ensuring the project's alignment with academic and ethical standards. She provides oversight to guarantee that the

Corsi-Rosenthal boxes are constructed safely and efficiently, while also ensuring that the educational content is accurate and age-appropriate.

Dr. Ford-Wade's experience and networks are valuable assets in securing resources, partnerships, and opportunities for the project. She can connect the project with experts in air quality, public health, and education, amplifying its impact.

Anticipated Twelve Week Timeline

Week 1

- Develop detailed project plan
- Establish initial contact with local schools for project collaboration
- Schedule meetings with school administrators and educators to introduce the project's goals and secure partnerships.

Week 2

- Order all necessary materials for Corsi-Rosenthal box assembly
- Coordinate with UM-PHSA to procure volunteers that will be actively involved in constructing the Corsi-Rosenthal boxes
- Begin planning for resource allocation among school partners.

Week 3

- Procure all the necessary material for the construction workshops
- Finalize plans with the UM-PHSA to procure volunteers for Construction workshops
- Visit schools and classrooms to collect initial data on air quality

Week 4

- Initiate Corsi-Rosenthal box assembly workshops, ensuring active student involvement and hands-on experience.
- Plan for a system to distribute the constructed corsi-rosenthal boxes to the partner schools
- Continue collecting data on air quality in schools and classrooms.

Week 5

- Continue the Corsi-Rosenthal box assembly process
- Begin the distribution of constructed corsi-rosenthal boxes
- Plan for data collection in schools and classrooms to monitor the effectiveness of Corsi-Rosenthal boxes in improving indoor air quality.

Week 6

- Continue the assembly workshops to construct the Corsi-Rosenthal boxes with the UM-PHSA
- Continue the distribution of air purifiers in partner schools
- Implement data collection in schools and classrooms to monitor the effectiveness of Corsi-Rosenthal boxes in improving indoor air quality.
- Conduct a project debrief with the UM Public Health Student Association.

Week 7

- Continue Corsi-Rosenthal box construction and distribution if necessary.
- Commence documentation of all project processes, including Corsi-Rosenthal box construction and data collection.

- Implement a focus group with educators and public health students about their experiences and lessons learned, focusing on refining the educational aspects.

Week 8

- Continue documenting and compiling all project-related information for the replication guide.
- Analyze the initial feedback and insights from the focus group with educators and public health students.

Week 9

- Begin the drafting of the community replication guide with an emphasis on clarity and accessibility.
- Review and refine the data collection processes.

Week 10

- Continue documentation and refinement of the community replication guide.
- Finalize any remaining project documentation.

Week 11

- Finalize the community replication guide, incorporating feedback from project partners.

Week 12

- Prepare for project conclusion and evaluation.

Final Product: Published Community Replication Guide

Recognizing the potential of this project to serve as a model for other communities, a significant portion of the project's efforts will be dedicated to producing a publishable comprehensive tool kit/community guide. This guide will include detailed instructions on building Corsi-Rosenthal boxes, tips for successful community engagement and educational outreach, and insights into securing necessary resources and networks. It is our intention that this guide will serve as a valuable resource for other community members and air quality professionals who wish to replicate this project successfully. By providing the necessary networks, resources, and materials, we aim to inspire similar initiatives in other communities in Mississippi, and expand the positive impact of this project beyond our immediate objectives.

The Initiative for Clean Air and Public Health Education is about tackling local air quality challenges head-on. At its heart this project is all about making the air cleaner in local schools through the creation and distribution of Corsi-Rosenthal boxes, which are simple and affordable DIY air purifiers. However, the significance of this initiative extends well beyond the immediate objectives, and embodies a commitment to educating the public about the link between clean air and overall health, as well as actively involving the community in the process. Throughout this project, we will work to create and publish a comprehensive guide to empower others to replicate our project successfully.

In addition to the development of the comprehensive replication guide, the project culminates with a presentation of its outcomes during a monthly meeting with the Mississippi Public Health Ambassador Initiative. As an ambassador within this program, I have the unique opportunity to engage with a diverse audience of 100-150 representatives from across the state who are dedicated to disseminating crucial health information within their communities. My intention is to share the replication guide with the Mississippi Public Health Association and its ambassadors upon the project's successful completion, with

the overarching goal of inspiring the adoption of the University of Mississippi - Clean Air Project as a replicable model in communities throughout the state.

Budget:

[MERV 13 20x20x1 Air Filters \(4 pack\)](#) - \$41

The MERV air filters are recommended for the Corsi-Rosenthal Boxes and provide the means of filtration in the design of the air filter

[1 Box Fan](#) - \$35

The box fan drives the air to go through the filters and provides clean air throughout the space

[Duct Tape](#) - \$10

Duct tape will be used to secure the filters and box fan together.

[Indoor air quality monitor](#) - \$51

The monitor will be used to evaluate the quality of air before and after the air filter is installed.

\$86 per Corsi-Rosenthal Box

\$4,730 to construct 55 Corsi-Rosenthal Boxes

\$102 for 2 Indoor Air Quality Monitors

BUDGET FOR FOCUS GROUP FOOD

\$17 box lunch for 10 people in the focus group - \$175

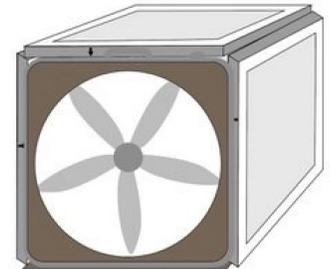
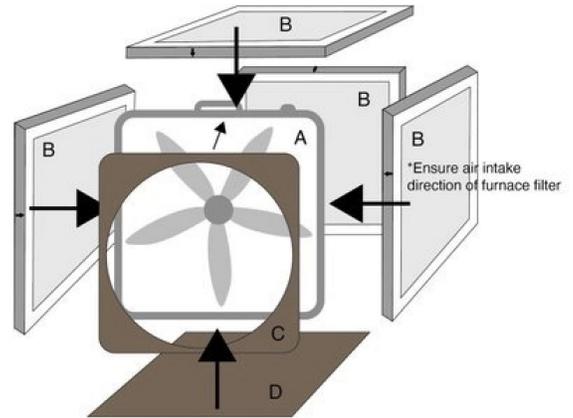
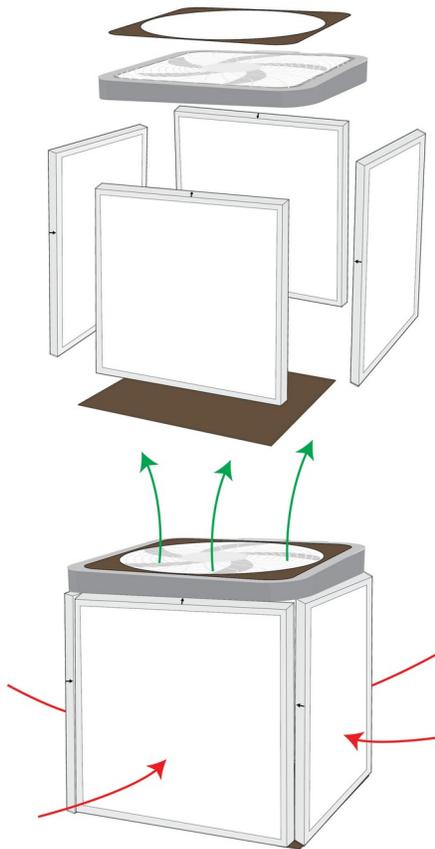
Bottled water for focus group participants - \$20

Total anticipated project cost = \$5,027

Below I have included an illustration of a Corsi-Rosenthal Box and its components, as well as pictures of built Corsi-Rosenthal boxes during an afterschool STEM program at the Oxford Boys and Girls Club.

Corsi-Rosenthal Box

illustrated by @ughberta



Materials:
 (A) 1x 20"x20" box fan
 (B) 4x 20"x20"x1" furnace filters
 MERV 13*/Filtrete FPR 1900
 (*can use MERV 11 if not available)
 (C) 1 fan shroud made of fan box
 (D) 1 fan bottom made of fan box
 - lots of duct tape to seal everything super well

References:
 Twitter: @corsiaq, @jimrosenthal4, @kprather88
<https://www.texairfilters.com/a-variation-on-the-box-fan-with-merv-13-filter-air-cleaner/>
<https://www.texairfilters.com/how-to-improve-the-efficiency-of-the-box-fan-and-merv-13-filter-air-cleaner/>

