

**SOAR Proposal: Summer 2018**  
**Evaluating how nature experiences help us thrive**

**Faculty mentor information:** Dietlinde Heilmayr, Psychology, Assistant Professor

**Student information:** Adrianna Mantz, psychology major, expected to graduate Spring 2019  
Noah Reiss, psychology major, expected to graduate Spring 2020

**Dates:** June 4, 2018 through August 10, 2018 (10 weeks)

**Brief project overview:**

*Project 1:* This is the main project of our SOAR proposal and will involve rigorously examining the effects of nature on health and well-being. Together, Noah, Adrianna, and I will evaluate the effects of a two-week nature intervention compared with a well-established positive psychology intervention (i.e. acts of kindness for others) and a control group (i.e. acts of kindness for oneself) on prosocial behavior and self-reported mental health, physical health, awe, conscientiousness, self-control, and other health-relevant variables. Much work has been done linking nature experience with health and well-being (e.g. see Bowler, Buyung-Ali, Knight, & Pullin, 2010), but most research to date has not employed random assignment, strong control groups, or longitudinal data collection—important components of a rigorous experimental design (Capaldi, Passmore, Nisbet, Zelenski, & Dopko, 2015). Project 1 will address these methodological shortcomings, thus strengthening the theoretical link between nature experiences and mental and physical health.

Noah has already been involved in developing this research idea during his Independent Study with me this semester. We will soon begin working on the HSIRB proposal, which I plan to submit by the end of May. Submitting the HSIRB proposal prior to the start of SOAR is crucial to begin collecting data early enough to allow Noah and Adrianna to analyze and interpret the results. Other than these initial steps (i.e. idea development and HSIRB), Noah and Adrianna will take an active role in every phase of this SOAR project, including study set-up, data collection, data cleaning, data analysis, and writing up results for publication in a research journal (e.g. Health Psychology or The Journal of Environmental Psychology). Moreover, I aim for Noah and Adrianna to each develop and address their own original research questions within the framework of the study, which they will submit for a conference poster presentation at either a regional (e.g. EPA) or national (e.g. SPSP) psychology conference. Finally, after we complete data analysis, Noah and Adrianna will cooperatively design and write an HSIRB proposal for a new study to address questions that arise from Project 1. Thus, Noah and Adrianna will see every phase of a research project, from study development to dissemination of results. Should they express interest, Noah and Adrianna will conduct their proposed study with me during the 2018-2019 academic year.

*Project 2:* I have already submitted an HSIRB proposal for a study that explores narrative identities of immigrant and refugee community gardeners. The overarching goal of this project is to better understand how community gardens can support immigrants and refugees in their transition to America. In this project, Noah and Adrianna will have the opportunity to interview participants at community gardens in Philadelphia and New York City. They will also learn to transcribe the interviews and to code the interviews for a variety of themes using Dan McAdams' narrative identity framework (McAdams, 2001). This methodology has never before been used

with this population, thus providing an excellent opportunity to compile a rich dataset that will allow us to address important questions concerning how community gardening programs relate to self-identity, mental and physical health, community support, sense of belongingness and purpose, and food security in immigrant and refugee populations. If Adrianna and Noah enjoy this project, they will be invited to continue their work as research assistants into the future.

As this project involves data collection from an uncommon population (i.e. refugee and immigrant community gardeners), I cannot confidently state how many participants we will recruit in the summer of 2018, or whether we will gather enough data for analysis within the 10-week SOAR timeframe. Thus, this project is a secondary project that Noah and Adrianna will likely not see from beginning-to-end during SOAR, but that will nevertheless teach Noah and Adrianna a methodology that is unique from what we are doing in Project 1. Moreover, I believe it is meaningful to expose budding researchers to an important reality and constraint of psychological research—it is often a slow process that requires perseverance and tenacity above all else. Project 2 will expose Noah and Adrianna to this reality. In Project 2, Noah and Adrianna will learn about non-experimental methods employed in personality psychology (i.e. the study of narrative identities), how to analyze such data (which we will either discuss in theory or actually do, depending on the data collected), the types of questions non-experimental methods can address, and how these methods complement experimental methods in psychological research.

#### **Summary of benefits:**

Being involved in two distinct-yet-related projects simultaneously will provide Noah and Adrianna with an experience that is reflective of what it is like to conduct research in graduate school and beyond. Given that both want to pursue graduate-level training in psychology, this two-pronged SOAR experience will aid them in applying to and succeeding in graduate school.

*Research skills:* By taking part in the projects described above, Noah and Adrianna will learn research skills that will develop their abilities as both consumers and producers of knowledge. Specifically, Noah and Adrianna will gain experience finding and reading relevant research articles; developing research ideas; writing and submitting HSIRB proposals; recruiting and scheduling participants; using Qualtrics for survey development and data collection; collecting quantitative and qualitative data; cleaning and analyzing data in SPSS; transcribing interviews; coding interviews for relevant themes; writing a publication-worthy manuscript; and creating and presenting a scientific poster. In other words, across these two projects, Noah and Adrianna will be involved in every phase of the scientific process and produce work that will contribute to the field in a meaningful way via peer-reviewed publications.

*Peer-reviewed publications:* I aim for our SOAR summer work to culminate in three peer-reviewed publications: two poster presentations that will be first authored by Noah and Adrianna, and a manuscript. Should Noah and Adrianna continue working with me after the conclusion of SOAR, there is potential for additional publications. The publications that will result from SOAR serve two main goals for Noah and Adrianna. First, publishing work will aid Noah and Adrianna in their application to graduate school as it lends credibility to both their interests and abilities. Second, I aim for Noah and Adrianna to submit their poster presentations to either a regional or national conference in psychology. By presenting at a such a conference, Noah and Adrianna will have the opportunity to meet graduate students and professors in the field that they are interested in pursuing. This will not only serve as a networking opportunity but will also help Noah and Adrianna explore their options and learn about graduate school more generally.

Team work and collaboration: The research goals set forth in this document are lofty and cannot be fully carried out as a team of two in 10 weeks. Should only one student be funded, we would need to scale back our goals, thus reducing the potential for scholarly growth and skill development. In other words, Noah and Adrianna are both motivated and responsible students, without whom these projects will not be possible. I have no doubt that both have the capability to grow personally and professionally through their SOAR experience, while also contributing to high-quality science.

Working as a team of three emulates the reality of scientific research. Science is becoming more and more collaborative, and it is crucial to provide budding scientists with experience working as a team. Moreover, because Noah has already been involved in research with me through an independent study, he will have the opportunity to mentor Adrianna, who has not yet been involved in research; Adrianna, in turn, will have the opportunity to learn from both Noah and myself. Not only do I believe that Noah and Adrianna will benefit from this relationship in terms of peer-learning and teaching, but such a tiered system mimics the reality of graduate school, thus better preparing both Noah and Adrianna for graduate training.

### **Rough timeline of milestones and student roles:**

To emulate the reality of being a part of a graduate research lab, we will read and discuss 2-3 research articles every week.

Weeks 1-2: Read and discuss background research; program Qualtrics measures; develop and disperse recruitment materials; set up lab space and equipment; practice running participants; develop own research question within framework for Project 1; develop coding scheme for Project 2

Weeks 3-7: Collect data for both projects; write introduction and method sections for manuscript and posters based on Project 1; transcribe and code interviews for Project 2

Weeks 8-9: Clean and analyze data for Project 1 (and possibly Projects 2); work on HSIRB proposal for new project

Week 10: Write results and discussion sections for posters; write and submit poster abstracts to conference; work on results and discussion sections for manuscript; finish HSIRB proposal

*Note: I will be out of town for approximately two weeks during mid-July. I do not foresee this being a problem as the studies will be up and running by the time I leave, meaning that Noah and Adrianna will be able to continue their work (mainly data collection, reading, and writing) without my being present. I will also be accessible via phone, email, and Skype/Zoom.*

### References

- Bowler, D. E., Buyung-Ali, L. M., Knight, T. M., & Pullin, A. S. (2010). A systematic review of evidence for the added benefits to health of exposure to natural environments. *BMC Public Health, 10*, 456. <https://doi.org/10.1186/1471-2458-10-456>
- Capaldi, C., Passmore, H. A., Nisbet, E., Zelenski, J., & Dopko, R. (2015). Flourishing in nature: A review of the benefits of connecting with nature and its application as a wellbeing intervention. *International Journal of Wellbeing, 5*(4), 1–16. <https://doi.org/10.5502/ijw.v5i4.449>
- Mcadams, D. P. (2001). The psychology of life stories. *Review of General Psychology, 5*(2), 100–122. <https://doi.org/10.1037//1089-2680.5.2.100>

## **Expense Proposal**

*Title of project:* Evaluating how nature helps us thrive

*Students:* Noah Reiss, Psychology, 2020; Adrianna Mantz, Psychology, 2019

*Faculty:* Dr. Dietlinde Heilmayr, Assistant Professor of Psychology

We request \$600 to offset costs of travel to and from immigrant and refugee gardens in New York City and in Philadelphia. There is no way to conduct Project 2 outlined in the proposal without travel to and from garden sites in these cities. These travel expenses are estimated based on \$0.545/mile, with approximately 6 trips to and from locations in each city. The more gardens we can visit, and the more immigrant and refugees we can interview, the higher quality our research will be. By collecting data from participants from different backgrounds and garden sites, we will be better able to generalize our findings, and better able to understand how community gardening might affect individuals differently based on the specific programming offered and various participant-level demographic factors. We will work to minimize travel to and from New York City and Philadelphia by scheduling multiple participant interviews, potentially at multiple garden sites, in one visit. Please note that I will be using my start-up funds for all other research costs, including but not limited to participant incentives (i.e. cash cards) and research equipment (e.g. recording devices, transcription pedals, etc.)

## *Student Statement of Purpose*

*Title of Project:* Evaluating How Nature Experiences Help Us Thrive

*Student:* Noah Reiss, Psychology Major, reissn@moravian.edu

Expected Graduation: May 2020

Faculty: Dr. Dietlinde Heilmayr, Assistant Professor of Psychology

*On campus housing requested? Yes*

When I first came to Moravian College I was quite unsure of what I should major in, what my career goals were, or even what classes I should take. I am a curious person by nature and found myself pulled in different directions in an attempt to pursue all of my interests while also trying to figure out what my ultimate personal and professional goals would be. I was frequently told that I should find something I am passionate about, and when I did, it would “click.” For me, this was psychology. When I first decided to major in psychology I had the intention of being a counselor because I enjoy listening to and helping others. Recently, however, I have gained experience in research psychology (via Experimental Methods and Data Analysis I and II, and also Independent Study with Dr. Heilmayr), and find myself more interested in pursuing a research-focused career as opposed to a clinical one. Research enables us to ask and answer questions, and thus feeds an inquisitive mind like my own. I have a great deal of curiosity about the world around us and how it impacts who we are as people. By choosing psychological research as a career path, I will be enabled to ask and answer the questions that I find interesting, and to share that knowledge with others.

Participating in this SOAR project will enable me to utilize my current psychological research skill set while also further developing my research abilities. That is, the structure of our proposed research will allow me to put all that I have already learned to use from the beginning of the project (e.g. idea development) all the way to the end (e.g. dissemination of results), while also allowing me to acquire new research skills. In particular, I will develop and refine research skills including, but not limited to reading research articles, writing HSIRB applications, collecting data, cleaning and coding data, using SPSS, and presenting scientific results. Not only will these skills increase my chances of being accepted into a competitive doctoral research program, but it will also set me up for success in graduate school and beyond.

The research we plan to conduct is also in an area of great interest to me. Through Dr. Heilmayr’s Health Psychology course I took in the fall, I have come to learn about the significance of psychological contributors to health. This SOAR project will allow me to further explore these topics. In particular, we will delve into the effects of nature experiences on health and well-being. The potential benefits of nature seem to be undervalued in a society in which a majority of its people live sedentary lives, perhaps in part due to the ever-increasing amount of technology at our fingertips. The natural world has a myriad of benefits for our physical and mental well-being, and though research is slowly beginning to illustrate these benefits, there is still much to be explored (Capaldi, Passmore, Nisbet, Zelenski, & Dopko, 2015). This SOAR project will allow me to dig deeper into published research about nature and health, develop my own ideas and hypotheses about the effects, and also contribute novel findings to the field.

Overall, this project will be an indispensable learning and professional development experience for both me and also my peer, Adrianna Mantz. I am currently taking part in an Independent Study with Dr. Heilmayr, through which I have already learned a lot about the

research process, from writing literature reviews to analyzing data and formally writing up the results. Adrianna has not yet had any research experience, making this collaborative SOAR experience a mutually beneficial opportunity us to work together in the research process. While assisting Adrianna, I would be reinforcing concepts and skills I have learned myself; Adrianna would benefit from learning from both myself as well as Dr. Heilmayr. This experience would emulate what both of us could experience as students in graduate lab, or even as a psychology professor. The idea of becoming a college professor is a profession that I have been taking into great consideration because of the impact you can potentially have on the students you teach and on the community. Since I carry an immense amount of passion with what I set out to do, I know that I can potentially leave an impression on the lives of those who I might come into contact with down the road. This underlines the notion that participating in SOAR will put me on a direct pathway towards both my professional and life goals.

Moreover, working collaboratively allows for Dr. Heilmayr, Adrianna, and myself to take on the same project with different perspectives and ideas, some of which can turn out to be efficient, practical, and perhaps groundbreaking. Learning to view the same issue or question from different perspectives is crucial to being an engaged citizen and an effective researcher. Relatedly, working as a team of three can also help to sharpen my communication skills. I will need to learn to effectively communicate with a peer who has had no research experience, as well as with my faculty advisor who is an experienced researcher, again emulating a graduate lab environment. Further, I plan to share our research findings with the Moravian community as well as at a regional or national psychological conference. Presenting at a conference will develop my abilities to present scientific findings and will also allow me to talk to fellow undergraduates, graduate students, faculty, and other research professionals. Being able to meet such individuals enables the possibility of collaborating with those individuals in future research, and to learn more about graduate school opportunities.

Ultimately, the fervent passion that I hold for research is what really draws me into participating in a SOAR project. Expanding my knowledge and engaging in my education is a top priority for me during this time of my life. Continuing to be involved in an academically engaging project over the summer will provide me with invaluable skills that I can utilize to further myself, both professionally and personally.

Capaldi, C. A., Passmore, H.-A., Nisbet, E. K., Zelenski, J. M., & Dopko, R. L. (2015).

Flourishing in nature: A review of the benefits of connecting with nature and its application as a wellbeing intervention. *International Journal of Wellbeing*, 5(4), 1-16. doi:10.5502/ijw.v5i4.449

## *Student Statement of Purpose*

*Title of Project:* Evaluating How Nature Experiences Help Us Thrive

*Student:* Adrianna Mantz, Psychology, mantza@moravian.edu

Expected Graduation: May 2019

Faculty: Dr. Dietlinde Heilmayr, Assistant Professor of Psychology

*On campus housing requested? Yes*

As a junior in college, not being certain about which direction to take after graduation is scary. Although I am not yet certain which exact career path I want to pursue, I do know I want work to help people live happier and healthier lives. Participating in this SOAR experience will help me decide whether I want to pursue this goal with a research-based career or with an applied psychology career. Regardless of the path I ultimately pursue, I believe this research experience will give me skills and experience in both, as it will allow me to conduct hands-on research, but will also teach me about evidence-based health interventions that I can ultimately apply to my community.

By participating in SOAR, I hope to experience a career environment that will help me make a confident decision about which psychology-based career path I will pursue after graduation. Conducting meaningful research under the supervision of a faculty member will allow me to grow academically, professionally, and personally through exposure to academic research and through working with others. In particular, I believe that the teamwork I can experience with Dr. Heilmayr, and my peer Noah, will supplement my learning experience greatly. Working with others is such a wonderful way to be exposed to new ideas and perspectives. Moreover, because Noah has experience in researching with Dr. Heilmayr, he could act as a peer-mentor in helping me find my footing in the field. The teamwork I describe here will help me attain one of my main goals of participating in SOAR—preparing me for my future career through a collaborative research experience, promoting both research savviness and teamwork abilities.

Dr. Heilmayr, Noah, and myself will spend time reading and analyzing past research that relates to our own work, meaning that we will truly be able to dive deep into our subject matter—an opportunity I have never had before and that I would appreciate prior to graduating. Reading and discussing articles will allow me to be more knowledgeable in the field, and also more competent analyzing scientific articles. Additionally, this SOAR experience will allow me to expand my abilities and knowledge in regard to many aspects of psychology research such as writing IRB proposals, using SPSS, coding data, collecting data quantitative and qualitative data, scheduling and running participants, as well as writing and presenting results. To learn these skills, I will help complete a research project from start to finish and dabble in an additional project, thus developing my ability to juggle multiple projects at once, a skill I will need to succeed in graduate school and beyond. Finally, I hope to present our results at a psychological conference. Presenting our research findings at a conference will not only allow us to share our meaningful research but will also give me the opportunity to meet potential graduate advisors and learn more about graduate programs that I may want to pursue. In sum, this experience will help me become a stronger student, a stronger writer, and a stronger candidate for graduate school.

A big incentive for my applying to SOAR is the specific research we will be conducting. Dr. Heilmayr has discussed her research in our courses (The Psychology of Health Interventions; Experimental Methods and Data Analysis I and II), which made me curious and intrigued about nature-based health interventions. Learning more deeply about psychological contributors to health and holistic health interventions will not only aid my own life, but also the lives of others with whom I share the knowledge and experience I will acquire through SOAR. By conducting the specific research proposed in our project, this SOAR experience will allow me to achieve my goal of gaining knowledge helping others and myself live, happier, healthier lives.

Finally, the outcomes of this research could be very beneficial to the Moravian College community. By learning about the health benefits of the outdoors and nature, we can encourage students to spend more time outside! We can build relationships with our peers and create fun community activities to get everyone involved. It would be such a thrill to gain professional research experience at school, while also building relationships with the community. In sum, this SOAR experience will help me gain career and personal experiences that will supplement all aspects of my life for years to come.