1. Description and Event Details:

The Women's Support Network (WSN) is a group of graduate students, post-docs, and faculty members from the Department of Psychology and Neuroscience (P&N). It aims to create a supportive network that grows feelings of belonging and self-efficacy among junior researchers. The group was created in response to demand polled last May, and had its kick-off lunch event on August 23rd. Twenty-four graduate students and post-doctoral researchers and six faculty attended, and thirty-four students and post-doctoral researchers are currently on the WSN listserv, interested in attending future events. Feedback from the kick-off lunch suggested that the group was interested in: 1) a dedicated student/post-doctoral listserv for announcing events and requesting and giving (potentially anonymous) advice (already created); 2) meet-and-greet events for networking with other members inside and outside the department; 3) panel events addressing specific issues that women face; and 4) meeting other women who were "killing it" in a variety of career paths. Most respondents also wanted to meet monthly or bimonthly. Suggested topics for the panels included: how to navigate inherent bias as one's career develops, confidence/ambitions as a female graduate student, ways to advocate for yourself (plus how/when to say no, always being asked to do organizing event things), providing a safe space to air grievances, teaching, negotiation, networking, mentoring, and work/life balance.

Panels would be combined with meet-and-greets, with approximately 30-45 minutes dedicated to the panel topics and 30-45 minute mingle meet-and-greets to follow. Panel speakers will be P&N faculty, with questions submitted by students/post-docs. Outside speakers would also be invited to discuss careers beyond academia. To provide opportunities across the spectrum of careers afforded by a PhD in P&N, potential speakers would include professors at liberal arts colleges (Nicole Weekes, Rachel Levin – Pomona College), R2 universities (Elizabeth Tricomi, Elizabeth Bonawitz – Rutgers-Newark), other R1 universities nearby (Kristen Lindquist, Barbara Frederickson, Stacy Daughers, Karen Gil, Abigail Panter – all of UNC) and a little further away (Sharon Thompson-Schill – University of Pennsylvania), researchers whose work directly relates to the STEM gap (Jennifer Mangels (CUNY-Baruch), Nilanjana Dasgupta (University of Massachusetts, Amherst), Gabriele Oettingen (NYU)), and individuals who work in industry (Hillary Mollert – Facebook), the government, and the private sector. Individuals working in academia may serve in primarily administrative, rather than research-oriented, roles. When connections are not available, the WSN organizers will ask other faculty members whether they know of individuals working in a particular job, and if further assistance is needed, they will look for individuals among Duke's alumni association. Attempts will be made to search for speakers from diverse backgrounds. These speakers may give a research talk or discuss their job to all of P&N, promoting career development for the entire department, but would be asked to meet and discuss further issues with WSN members either before or after their departmental talk. Outside speakers may also participate on the panels, costs permitting. Panels will be timed so that there are no concurrent faculty meetings and women with families can still attend. Events will be marketed to all those currently on the listserv (see #5).

Some possible event types were not previously polled. This includes the possibility of establishing an undergraduate/graduate (or post-doc) mentorship program. Currently, the department hosts a one-night panel for undergraduates interested in pursuing graduate careers; a further follow-up could include a longer-term relationship and starting mentorship earlier. This

would funnel the support that graduate students and post-doctoral researchers receive through the WSN back into the community. Another possibility is to set-up dedicated writing workshops or days (like hack-athons); such an event would have a supportive atmosphere of women promoting the sustained development of a skill that generalizes to all career paths.

2. Key Personnel:

The primary individuals involved are Dr. Elizabeth Marsh, P&N associate chair, and Christina Bejjani, a second-year P&N PhD student. Dr. Marsh advises on which faculty have relevant expertise, encourages faculty attendance and participation in the events, and helps respond to queries that are posted through the support network's listserv. Dr. Marsh has worked closely with a number of early-career female scientists; she currently has three female graduate students and has placed multiple female students in tenure-track positions (e.g., Vanderbilt, Claremont McKenna College) and industry (e.g., Facebook). She cares deeply about the advancement of female scientists and has the administrative experience and knowledge of Duke needed to help. Christina is responsible for tallying student and post-doctoral participation in the events, running the student and post-doctoral listserv (lists.duke.edu/sympa/wsn-pn), and soliciting feedback in order to organize well-attended events. In her first year, Christina organized the inaugural undergraduate/graduate mentoring program with the Duke Women in Science and Engineering group, matching over one hundred students to promote the participation of women in science. She has acted as a graduate student mentor for US2020 RTP's STEM Expos, coordinated a summer brain camp for Newark high school students of disadvantaged backgrounds, led discussions for Women in Science book clubs, and presented with the Graduate Women in Science for NC Girl Scouts. In the future, Christina and Dr. Marsh may ask a post-doctoral researcher to join their team as an additional representative.

3. Need and Impact:

Although over two-thirds of PhDs in psychology are awarded to women, fewer than half of assistant professors and fewer than one-third of full professors are women (Nelson, Brammer, & Rhoads, 2007). This low utilization rate is evident within Duke's P&N: of the primary faculty, there are six full female professors and fourteen full male professors, with equal numbers of male and female associate professors and three more female than male assistant professors.

Most programs are aimed at combating institutional and societal inequalities, but few address how to encourage feelings of belonging among the community. To promote the participation and retention of women in the sciences, Dasgupta and Stout (2014) recommend programs that focus on increasing social belonging through exposure to female experts and peers. In particular, they recommend that STEM departments support venues for networking to foster a sense of belonging among students and recruit senior women in STEM fields to present their work, providing opportunities for students to meet role models in their field. These programs can facilitate the formation of bonds that act as "social vaccines," inoculating women's self-concept against stereotypes, building resilience, and increasing belonging (Dasgupta, 2011). Therefore, the primary aims of the Women's Support Network are 1) to facilitate a supportive network that grows feelings of belonging and self-efficacy through exposure to peer and expert role models and direct mentorship and 2) to promote the work of senior women in the field as well as the

diverse career paths that they may take.

Currently, within the P&N department, all first-year students must take a year-long seminar, the focus of which is primarily on submitting a NSF GRFP or other applicable grant (fall) and presenting the culmination of their first research projects at Duke (spring). Depending on the instructor, a few class sessions may focus on career development issues such as time management and reviewing grants. After that year, there is no unifying class among P&N subareas. Post-doctoral researchers have no particular programming dedicated to integrating them into the community, either. Each subarea of P&N is further spread across multiple buildings (Systems and Integrative Neuroscience: Genome Science Research building; Developmental/Social/Cognitive/Clinical Psychology: Sociology/Psychology building; Cognitive Neuroscience: LSRC; also Clinical Psychology: the Grey building, the medical center and other locations), and frequently, students rarely see others outside of their subarea after the first year. If students or post-doctoral researchers are struggling and feel like misfits, they may not see people outside their subarea other than at the infrequent P&N colloquia (which occur three to four times per semester, where Duke P&N faculty present on research from their own labs to promote general knowledge of faculty research interests). There is no common brown-bag series; some subareas have their own. The lack of networking opportunities is a problem within P&N, and given its spread across the East and West campuses, it does not have the kind of network that would inoculate women against harmful stereotypes, per the Dasgupta model.

Additionally, there is a general lack of career development opportunities, regardless of gender. Last year, alumnus Dr. Laura Thomas discussed her experience at the National Institute of Environmental Health Sciences. This was not dedicated programming, but was arranged as a special departmental talk. There is also a two-hour teaching assistantship training that goes over the resources needed (e.g., who to contact, where the Scantron machine is) without discussing in depth how to teach well. In short, the department does not have much professional development programming targeted at any particular career path; inviting outside speakers through the WSN would benefit other members of the department and showcase strong women leaders.

The WSN would ultimately benefit faculty, post-doctoral researchers, and students in the short- and long-term. For the newer female assistant professors, the network would help integrate them into a supportive departmental culture, which is one of many factors that affects attrition for female STEM-PhDs (Dasgupta and Stout, 2014). Their integration would in turn help the students and post-doctoral researchers who view these faculty as role models. For the students and post-doctoral researchers, this will bridge between the department subareas to create a supportive network for those just beginning their PhDs and those beginning to think about careers beyond Duke. This can inspire new research collaborations through simple meet-and-greets and new connections across academic, industrial, and other domains through the simple facilitation of increasing feelings of belonging and self-efficacy. Finally, this will also increase general departmental knowledge of diverse career paths.

4. Budget:

The existing funding is from Dr. Marsh, who, as associate chair, has access to a small budget that is already over-committed. No other funding has currently been applied for, since the kick-off

event for the network was in August. The planned events are as follows:

1. At least two outside speakers, one per semester ($1,200 total)
   a. Outside speakers will be ranked according to feedback from the WSN, with each speaker from a different career path. Speakers will also be chosen with the budget in mind, given that honorarium costs can range from $0-1,500 per person.
   b. To offset travel costs, faraway speakers may be asked whether they can Skype with interested members. This would still allow for exposure to individuals from other career paths (e.g., a Facebook researcher in Seattle).
      i. A meal meet-and-greet with an invited campus speaker would cost about $200. These costs would be mitigated with Skype speakers.
      ii. If money is leftover from the first two speakers, more will be chosen, with the budget, WSN feedback, and potential Skype events in mind.
2. Four targeted meet-and-greet/panel events, two per semester ($800 total)
   a. Meet-and-greet/panel events would cost about $200/event in terms of food. This is the standard cost for catered food feeding approximately 20-25 people.
   b. One or two of these events may be cut in favor of the mentorship program and writing workshops; the money still supports the cost of food.

5. Interdisciplinarity:

Currently, the WSN is open to other departments/programs on a case-by-case basis. For example, students from the Cognitive Neuroscience Admitting Program (CNAP) also take the first-year seminar with P&N students, although CNAP students are not admitted into a department until their third year. Some CNAP students do not ultimately join P&N, but are more than welcome to join the WSN, since not including these students would be unnecessarily exclusive. Other students and post-doctoral researchers may come from the Fuqua business school and be affiliated with a P&N faculty member, in which case they may hear about the network through their P&N peers. Students and post-doctoral researchers were recruited through mass emails using the P&N website for a guide on current affiliations. If no response was received, a lack of interest was assumed. Each year, an attempt will be made to reach out to new first-year P&N students. Events will be marketed to all those currently on the listserv.

6. Assessment:

Feedback has already been extraordinarily helpful in assessing the need for and interest in the WSN. For each planned event, sign-up sheets will confirm the number of attendees given the level of RSVPing (i.e., to determine the amount of food), and feedback forms will assess how satisfied (on a Likert scale) students/post-docs were with the event itself and the guests who spoke, so that the organizers can rotate through faculty members and invited speakers if they did not sufficiently address the topics. Thus far, the group has functioned through student- and post-doc- feedback, and the WSN will continue to take feedback into account when planning events.

Dasgupta, N. (2011). Ingroup experts and peers as social vaccines who inoculate the self-concept: The stereotype inoculation model. *Psychological Inquiry*, *22*(4), 231-246.

Dasgupta, N., & Stout, J. G. (2014). Girls and women in science, technology, engineering, and mathematics: STEMing the tide and broadening participation in STEM careers. *Policy Insights from the Behavioral and Brain Sciences*, *1*(1), 21-29.

Nelson, D. J., Brammer, C. N. & Rhoads, H. *A National Analysis of Minorities in Science and Engineering Faculties at Research Universities*, 2007.