Design of SWEsters Mentorship Program for First-Year Engineering Student Success

by
Tatiana Thompson

A THESIS

submitted to
Oregon State University
Honors College

in partial fulfillment of
the requirements for the
degree of

Honors Baccalaureate of Science in Chemical Engineering
(Honors Associate)

Presented May 23, 2018
Commencement June 2018

AN ABSTRACT OF THE THESIS OF

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Carlos Jensen

In order to support first-year women in engineering, a program was designed to help their transition to college and promote connection with other women. The program focused on three main areas based in research: mentor matching with mentee input, regular formal meetings in small mentoring groups, and the formation of an informal mentoring community. Based on a mentor speed-dating event, 120 mentees were put into groups with 17 mentors based on their input, as well as, demographic/psychographic questions. Regular mentor group and SWEsters organized events spanned Fall Term 2017. Following the program, mentees were survey via an online survey to determine the success of specific program components. All survey participants agreed that the program should be continued in the future. Specific results and suggestions for further improvements are presented in this thesis.

Key Words: mentoring, women in engineering, student success

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<u>Honors Baccalaureate of Science in Chemical Engineering</u> project of Tatiana Thompson presented on May 23, 2018.

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I understand that my project will become part of the permanent collection of Oregon State University, Honors College. My signature below authorizes release of my project to any reader upon request.

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Tatiana Thompson, Author

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Outline

Introduction

Women in the field of engineering have a unique challenge in front of them. For many, the transition into college may be exceptionally difficult as they may never have experienced such a gender disparity previously. At Oregon State, only 20% of the students in the College of Engineering are women. Many of the majors around the college have an even lower representation of women. Due to this fact, many of these students may have classes with little, to no, other women throughout college. Experts say this is because the natural engineering environment, in its current state, is not as welcoming to women as it is to men (Cheryan, et. al.2009). However, the OSU College of Engineering strives for an inclusive and welcoming environment. Their strategic plan even strives for "a community of faculty, students, and staff that is increasingly more inclusive, collaborative, diverse, and centered on student success". A large network in an under represented field can make all the difference.

In order to support female students and combat the implicit and unconscious bias, the Oregon State University (OSU) Section of the Society of Women Engineers (SWE), in conjunction with the OSU College of Engineering's (COE) Women and Minorities in Engineering Program (WME), developed the SWEsters Mentorship Program. The WME Program has previously hosted a program called the Women in Engineering Orientation Program (WEOP). The WEOP program was open to freshmen women studying engineering at OSU and applicants checked into the dorms a day, or two, early and spent the Sunday before fall term on a rafting trip. It encouraged strong relationships with other women in starting in engineering and create a strong network when entering the new environment. In the past, mentoring programs, paired with WEOP, had been unsuccessful

in retaining mentors and mentees. For this reason, a new program was developed using components supported in research. SWEsters worked to collect mentee input in mentor selection, utilize regular and formal mentoring meetings, and create an informal mentoring community.

The SWEsters was developed and implemented starting fall term of the 2017-18 academic year following the WEOP. One hundred and twenty-two mentees and seventeen mentors were involved in the program.

Literature Review

The Oregon State College of Engineering has 8,932 students and only 1,837 of them are women. The huge disparity paired with the fact that engineering, in its current state, is less welcoming to women, causes many women to shy away from engineering. As stated in the strategic plan, the OSU COE strives to create a community of faculty, students, and staff that is increasingly more inclusive, collaborative, diverse, and centered on student success. Helping women create a strong network early in their college career makes them feel more welcome and included in the community. A great network can be created through a mentoring program focused on the success of first year students. Mentoring is sweeping the nation as common practice at most large companies or organizations. Individuals who are mentored show more career satisfaction, opportunity and recognition, than to those who are not (Fagenson, 1989). A study by Dennehy and Dasgupta (2017) reported that same-gender peer mentoring programs helped female students feel more "belonging, confidence, motivation, and ultimately retention of women in engineering." They noted that female mentors are exceptionally important during the first years of college to support the transition (2017). Mentoring programs can meet the needs and have positive outcomes for both mentors and mentees involved (Allen and Eby, 2002).

Mentoring programs have a few major aspects that can be tuned for success: meeting frequency, program format, mentor matching, mentoring relationship, and program length.

a.   Program and Meeting Structure

No definite conclusions are drawn with regards to whether or not formal or informal programs are best. O'Brien, Rodopman, and Allen (2008) suggest that having organization sponsored events or activities for both mentors and mentees to interact can be beneficial in youth mentoring. Best practice literature often states that it is important for mentoring groups to clearly set goals and outcomes at the beginning of the program (Miller, 2008). Additionally, Allen, Finkelstein and Poteet (2009) echo that mentoring relationships are most successful when a clear set of goals are outlined at the beginning of the relationship. They go as far as to suggest having what they call a "mentoring agreement" to avoid obstacles in the relationship, set the group's expectations and determine what success looks like for all participants. In their book, Designing Workplace Mentoring Programs: An Evidence-Based Approach, Allen, Finkelstein, and Poteet (2009) state that the highly supported importance of goal setting practices found in professional organizations and companies translates well to mentoring programs. Catalyst (2003) also reiterates their suggestions, advising that groups clearly define their goals for the mentoring relationship.

Studies suggest that the ideal length of mentoring relationship is one year. According to O'Brien, Rodopman and Allen (2008), in youth mentoring, relationships shorter than one year had little impact on mentee progress. It is reported that informal relationships tend to have longer lifespans than formal mentoring relationships. However, as formal mentoring relationships are given the opportunity to span longer periods of time, they begin to realize the amount of satisfaction and outcomes seen in an informal mentoring relationship (Allen, et. al., 2009). This is supported by Eby and Allen (2002)

where they find that the longer the relationship lasts, the method of formation, formal or informal, has less of an impact. It was also seen that planned activities, such as panels, sponsored lunches, or end-of-the-program events, especially those including all program participants, can create an avenue by which mentees can meet and connect with other mentees and mentors, forming more informal relationships within the formal program (Allen et. al., 2009).

Catalyst (2003), a non-profit aiming to advance women in business, states that group mentoring is a great way to create a variety of peer connections, while making the best use of a limited number of mentors. However, they recognize that issues can arise with this method. Less competitive or assertive participants tend to fall between the cracks. Also, the likelihood of time conflicts is much more prevalent than those in one-on-one mentoring or smaller groups.

A variety of meeting structures reported by Allen, Finkelstein and Poteet (2009) suggests that having structure and guidelines for meeting frequency helped mentees be more successful. Regular frequency also brings about positive results. In their book, Designing Workplace Mentoring Programs: An Evidence-Based Approach, they report that although less research has been done in the area of meeting frequency, interaction between higher frequency and higher mentee satisfaction has been noted (Allen, et. al., 2009). Clear goals set between the mentor and the mentee, as discussed previously, can aid in determining the appropriate frequency for meetings when paired with minimum expectations. An interesting fact set forth by Allen, Finkelstein and Poteet (2009) is the importance of setting regular meetings and them keeping them. They warn that canceling

meetings for "regular work duties" can risk sending the wrong message to mentoring program participants by allowing them to feel "pushed aside".

b.   Informal Mentoring Community

Formal mentoring programs are structured and organized. They are commonly based on specific, measurable goals and usually based on the compatibility of mentors and mentees (Management Mentors, 2012). Informal mentoring is focused on a natural relationship between mentor and mentee and has little structure, in contrast to formal mentoring (Management Mentors, 2012).

Informal relationships are developed for a wide variety of reasons. Often, companies start formal programs to onboard new employees, improve performance and help employees prepare for management roles. (Allen, Eby, & Lentz, 2006). Additionally, mentees that participate formal mentoring programs often see "positive work attitudes and career success" (Allen, Eby, Poteet, Lentz, & Lima, 2004). Formal mentoring relationships are very effective and can achieve important goals, providing the necessary support to participants. However, when compared to formal relationships, informal relationships last longer and provide more professional and social support. These relationships are said to be rooted deeper in friendship and respect, as they are naturally occurring or based in "mutual identification" (Ragins and Cotton, 1999). Ragins and Cotton (1999) stated that mentors that are selected via informal mentoring tend to be more effective, as they are often selected for their strong interpersonal and communication skills. Mentees with informal mentors received more career and psychosocial support than formal mentoring relationships (Ragins and Cotton, 1999). In

addition, the benefits perceived by mentees, experts suggest that when mentors are in an informal mentoring relationship, they also gain more intrapersonal benefits and positive feedback than those in formal relationships.

Further, de Janasz and Sullivan (2004) speculate that the current model of one mentor to a group of mentees has become outdated. They discuss the need for a "mentoring network" in the setting of university faculty being led through their career by one mentor. Having a "portfolio of mentors" can be more beneficial as each mentor will have strengths in different areas, helping the mentee to shape their own individual career (de Janasz & Sullivan, 2004). In their guide, Creating Successful Mentoring Programs, Catalyst (2003) supports the idea that great a "panel of mentors" gives the participants a wide variety of experiences, backgrounds and perspectives to pull from. To facilitate these relationships between mentees, other mentors and program participants, Allen, Finkelstein and Poteet (2009) suggest utilizing planned events, like luncheons, kick-off events, or "graduations".

c.   Mentee Input in Mentor Selection Process

Mentor matching can be done in a variety of different ways. They can be matched via similar psychographics, random matching, program coordinator suggestions, or using a mentor matching event.

Traditionally, many companies and organizations pair mentors and mentees using common characteristics, like demographics or psychographics. These types of relationships are meant to maximize the learning gained by the mentees through the

relationship (Olwell, 2016). In a company, this may look like selecting a mentor who has a similar job title to a mentee's future aspirations or someone with a similar background. In a collegiate setting, this may look like selecting students with similar majors or goals (O'Brien, Rodopman, & Allen, 2008). However, researchers Allen, Eby and Lentz (2006) suggest that mentee feedback in the relationship, even in a formal setting, creates a stronger, more beneficial relationship.

Additionally, other groups researched the effect of random mentor selection, but noted that this could cause issues to arise. Mentor-mentee pairs who were matched randomly could potentially have little, to nothing, in common, resulting in a negative relationship (Labin, 2018). However, studies by O'Brien, Rodopman, and Allen. (2008) suggested that youth mentoring showed little importance in the mentor matching process. Whereas, workplace mentoring, along student-faculty mentoring, placed emphasis on the need for a matching process for a strong relationship (Allen et. al. 2008). The study at hand spans between youth mentoring and workplace mentoring, encompassing aspects of both.

Miller (2008), in his chapter of the Blackwell Handbook of Mentoring, discusses a method by which participants give input into pairings and he stated that these types of relationships fostered strong bonds within the mentorship groups and further commitment to the program as a whole. It also gave participants to opportunity to connect with a mentor on a deeper level beyond similar interests. On the other hand, a mentoring study about residency students suggests some sort of advisor feedback and direction on mentor pairing "to address multiple development areas or ensure a quality mentorship experience" (Gonzalez & Donnelly, 2016). Professor Ronald Burke (1990) wrote that

creating chemistry between mentors and mentees is the key to a successful relationship.

A "lack of chemistry" can deeply affect the relationship. Additionally, a study by Allen,

Eby and Lentz (2006) suggests that when mentors had an impact on matchings, superior

relationships resulted.

SWEsters Mentorship Program Plan

As stated in the research, a mentoring program was selected to help students feel more "belonging, motivation and confidence" (Dennehy, Dasgupta, 2017). The SWEsters Mentorship program was developed to serve women entering the College of Engineering. The program built off of the existing WEOP, started by Ellen Momsen under the WME Program. Historically, the WEOP Program included the students checking in to the dorms a day early and the spending the Sunday prior to week zero on a one-day rafting trip with the Adventure Leadership Institute. Previous mentoring programs has often seen a lack of retention or organization. However, a new program was designed and coordinated by the President and Vice President of the OSU Section of SWE and funded by the WME Program to focus in three main areas: mentor matching using mentor speed dating, important aspects mentor group meetings/program format, and semi-weekly events to create a mentoring community.

Mentors were recruited from the membership of the OSU Section of the Society of Women Engineers. A recruitment and informational meeting occurred during the Spring Term of 2017. At the informational meeting, an outline of the program and time commitments were given to the group. Mentors were asked to commit to weekly events and those available were given the opportunity to attend the rafting trip.

Students who attended the rafting trip through WEOP were introduced to the program at their orientation (Friday and Saturday before Week 0 and rafting trip). These students were not committed to the program, but SWEsters was presented as a natural extension to WEOP. Additional mentees were recruited at the College of Engineering Cookies and Clubs event on the Tuesday of Week 0. Students were asked to commit to

the program by the Thursday of Week 0 at the Mentor Speed Dating Event, or through email if they were unable to attend. A total of 120 mentees were paired with 17 SWE mentors.

Mentor-mentee pairs were determined via a mentor speed dating hour. Speed dating focused in two major types of matching techniques: demographic/psychographic matching for professional and academic support and matching based on mentee input for deeper connections or "mutual identification" (Ragins and Cotton, 1999). Most emphasis was placed on matching based on mentee input. Random matching was not used to avoid the possibility of negative or detrimental mentoring relationships. A one-hour SWEsters Mentor Speed Dating event was organized and held on Thursday, September 21st, during week zero. At the beginning of the event, all mentors introduced themselves, highlighting some of their academic and professional involvement and achievement. Mentees traveled around the room talking to each of the potential mentors. They used a "passport" to guide them through the process (See Appendix B). Questions were used to help us use psychographic matching, as well as, give mentees relevant questions to ask their potential mentors. By the end of the event, they were asked to mark their top three, ideal mentor choices on the passport, along with answering the personality and goal centric questions. Turning in the passport was the way for mentees to formally commit to the SWEsters program. Students unable to attend the SWEsters Mentor Speed Dating were sent a PowerPoint with pictures of all the mentors and a short "elevator" paragraph and were asked to answer the same questions seen on the SWEsters Mentor Speed Dating Passport (Appendix B). As previously stated, total of one hundred and twenty mentees signed up for the SWEsters program.

A combination of mentor selections, majors and interests were used in the matching process to ensure the strongest and most influential pairs. Mentors were grouped with five or six mentees by the program coordinators. Pairings were revealed at the first SWEsters Meeting during Week One after the first SWE General Body Meeting and mentors were asked to give mentees small gifts to get them excited.

The program events were organized over the 10 weeks of the term, plus the mentor matching during week 0. Background research states that the ideal length of the program is one year and shorter programs may have little impact. However, based on previous programs, attendance began to dwindle after one term as mentors and mentees get busier and find other things to become involved in. In order to create a strong, successful program to build off, the program coordinators decided to limit the program to one term, Fall 2017.

The program held weekly meetings during Fall term with a combination of mentor group meetings and SWEsters meetings. Very little conclusive research has been done in the area of meeting frequency, but researchers have noted the relationship between programs the meet more frequently and mentee satisfaction. Mentors were encouraged to meet with their mentee group on the "off-weeks" when no organized events occurred to ensure weekly contact and a formal mentoring relationship. During these weeks, students were also encouraged to attend the SWE meetings to aid the academic and professional growth of students.

The SWEsters program is a formal mentoring program in which mentors and mentees are paired and a schedule is set by the program. However, this is not the ideal type of mentoring. Informal Mentoring, where students seek out and make a relationship

with a mentor based on "mutual identification" (Ragins and Cotton, 1999) provides more

professional and social support and ultimately is more effective. To foster these

relationships, every other week, SWEsters events organized by program coordinators

(mentor reveal, bowling night, movie night, pumpkin patch trip, Friendsgiving, and end-

of-the-year celebration) occurred to create the mentoring community. Experts say that the

standard mentoring approach of one mentor to a group of mentees has become outdated.

Students that only have one mentor may feel that there is only one path to success.

Effective programs allow participants to interact with a "portfolio of mentors" (de Janasz,

Sullivan, 2004; Catalyst, 2003) giving them a portfolio of experiences, strengths and

backgrounds to help shape their personal journey.

Program Evaluation

As previously stated, the SWEsters program spanned Fall Term 2017 with

mentors matched using mentee input, regular mentor meetings and SWEsters events. No

data was available to compare to previous programs, so the SWEsters program was

evaluated using a survey of participants experiences. The survey focused on the opinions

of the freshmen students who participated as mentees in five categories of questions:

demographics, mentor matching, mentoring community, program format, and general

program questions to evaluate program goals. Based on the nature of the questions, IRB

approval was not necessary, as the survey was given with the sole intent of program

review.

The survey was delivered using Google Forms and consisted of 31 questions.

Participants were asked to rate their agreement with statements based on a 1-5 scale

ranging from "Strongly Agree" to "Strongly Disagree" (See Appendix B for questions).

Students selecting 1 or 2 *agree* with the statement, 4 or 5 *disagree* with the statement, and

3 are *neutral*.

A few major hypotheses were researched using behavioral questions based on

program goals.*Hypothesis 1* is that students will create a deeper relationship with mentors

selected through mentor matching. Based on research put forth in the literature review,

allowing students to give input into their mentor selection creates a stronger match when

compared to random or organizationally selected matching. *Hypothesis 2* is that large

group events will produce informal mentoring relationships with other mentors.

Hypothesis 3 predicts that large group events will create a mentoring community

allowing for relationships between mentees to form. Focusing on meeting format,

Hypothesis 4 suggests that students will benefit from small mentoring groups that allow them to make connections with their peers, in addition to their mentors. *Hypothesis 5* is that a program that spans one term is appropriate for the SWEsters program. *Hypothesis 6* is that the SWEsters program allows for students to become more connected to other women and supporters in engineering. Finally, *Hypothesis 7* states that the SWEsters program helped students feel more prepared for their first year of college.

Survey participants were selected based on their participation in the SWEsters program. The survey was sent to all SWEsters program participants and was not incentivized in any way. Seventeen participants, 14.2% of the total program, voluntarily completed the survey by the end of the research period. The results were reviewed and compared to the set forth hypotheses based.

Results

Hypothesis 1 – students will create a deeper relationship with mentors selected through mentor matching – is supported. 94.1% of respondents participated in the mentor speed dating event to select a mentor and 82.3% felt that their feedback was used in the mentor selection process. Of those who felt that their feedback was taken into account, 84.6% feel that they connected well with their mentor and 76.9% attribute a deeper connection with their mentor to mentor speed dating (See Figure 1). Additionally, none of the survey participants would have preferred that their mentor was selected randomly and only 1 person would have preferred that their mentor be selected by the Program Coordinators. Results only took into account the responses of 16 students, because one
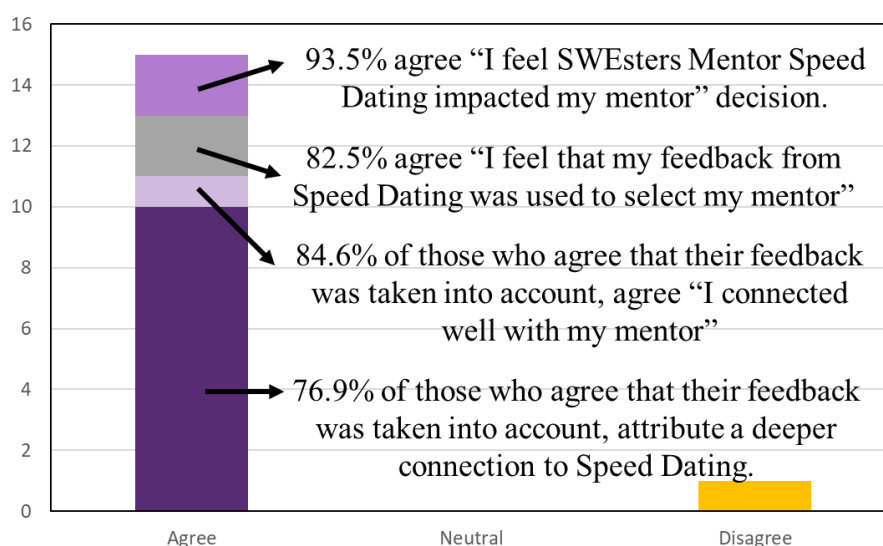

Figure 1 – SWEsters Speed Dating survey results. The responses of 16/17 survey participants as 1 participant did not attend the Speed Dating Event which was not sufficient to draw conclusions.

Hypothesis 2 – large group events will produce informal mentoring relationships with other mentors – is not supported. Only 17.7% of survey participants created strong relationships with other mentors through these organized events. However, *Hypothesis 3*

– large group events will create a mentoring community allowing for relationships between mentees to form – is supported. 82.3% of mentees connected with other mentees at the large group events and 64.7% agreed that they met many of their friends in SWEsters. Also, 88.2% wanted to attend SWEsters events, even when their mentors
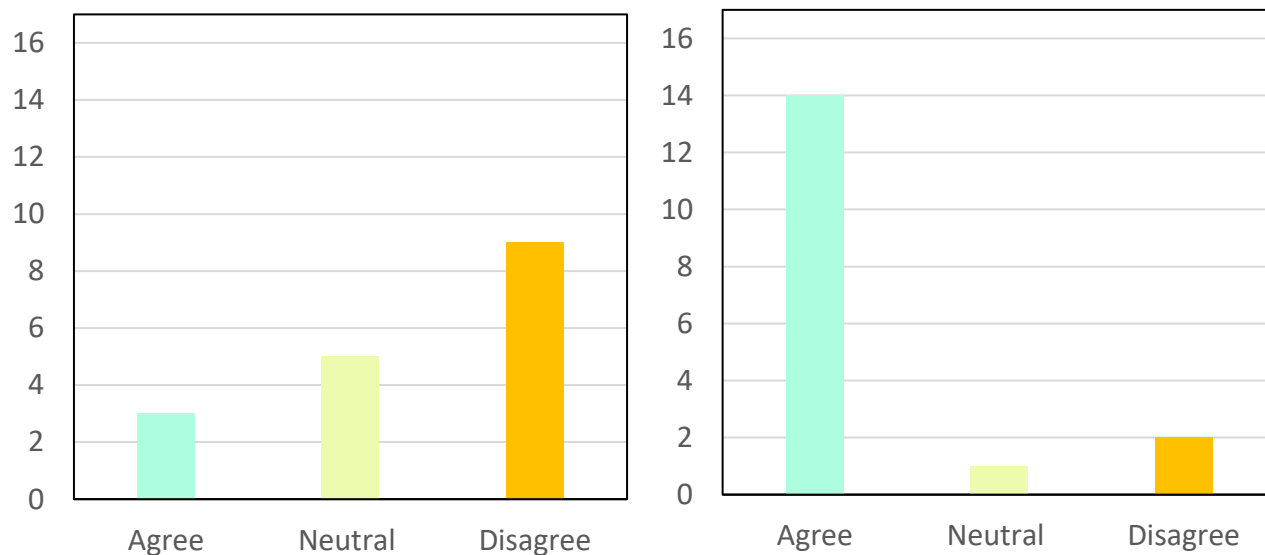
weren't present.

Figure 2 (left) – Survey participants responses to the statement "I created strong relationships with other mentors at SWEsters Large Groups Events" Figure 3 (right) - Survey participants responses to the statement "I created strong relationships with other mentees at SWEsters Large Groups Events".

Hypothesis 4 – students will benefit from small mentoring groups that allow them to make connections with their peers, in addition to their mentors – is supported. 82.3% of respondents enjoyed having a mentorship group (Figure 4). 17.7% would have preferred more one-on-one mentoring. *Hypothesis 5* – a program that spans one term is appropriate for the SWEsters program – is not supported by the data, as only 35.3% agreed that the program spanned the appropriate amount of time and 41.2% disagreed (Figure 5).
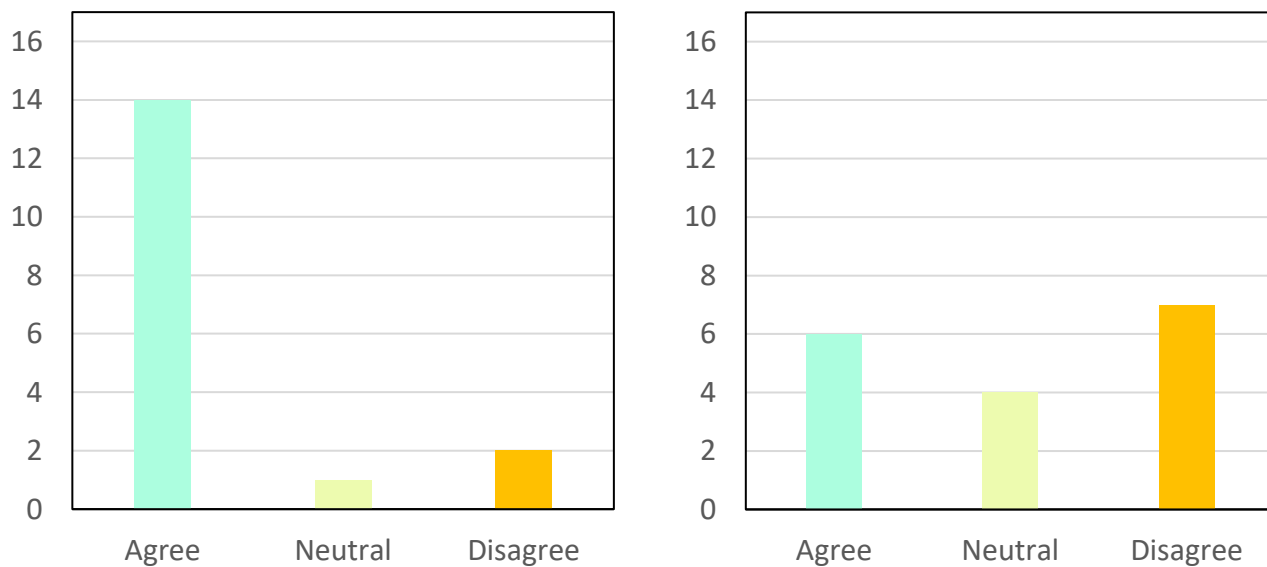

Figure 4 (left) – Survey participants responses to the statement "I enjoyed having a mentorship group" Figure 5 (right) - Survey participants responses to the statement "I felt that the SWEsters Program spanned the appropriate amount of time".

Hypothesis 6 - the SWEsters program allows for students to become more connected to other women and supporters in engineering – is supported. 82.3% of

students felt that SWEsters helped them to feel more connected to other women in

engineering (Figure 6). However, *Hypothesis 7* – that the SWEsters program helped

students feel more prepared for their first year of college – is not fully supported. Only

52.9% of students agreed that SWEsters prepared them for their first year of college and

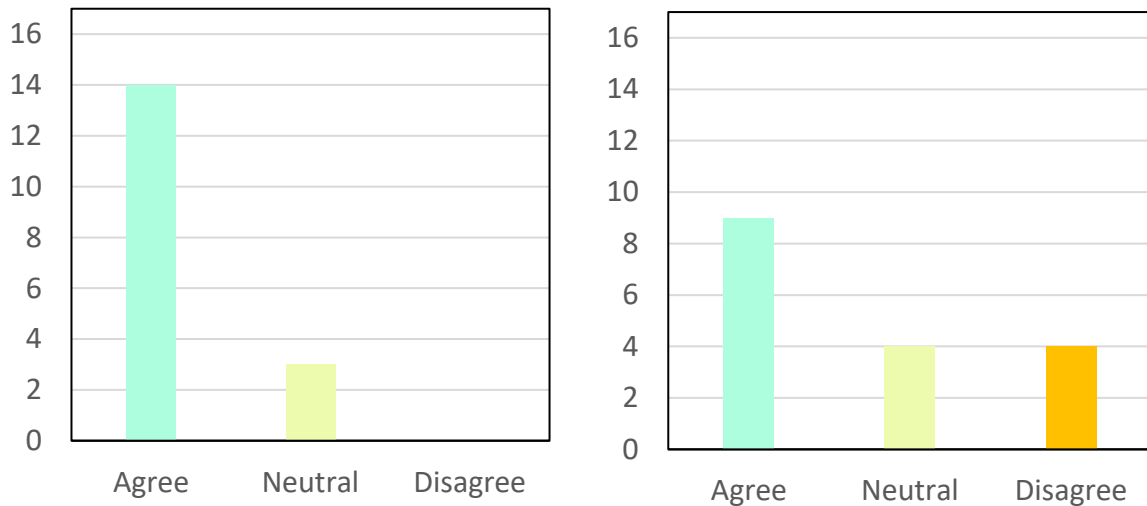23.5% of respondents disagreed (Figure 7).

Figure 6 (left) – Survey participants responses to the statement "I felt more connected to
other women in engineering because of SWEsters." Figure 7 (right) - Survey participants
responses to the statement "I feel SWEsters prepared me for my first year of college."

Discussion and Conclusions

Program design was overall very successful for participant retention and success. The program began with one hundred twenty mentees and seventeen mentors. Ultimately, over 50% of the mentees were retained over the course over fall term, with over 60 students attending the final celebration event. About 13 of 17 mentors were retained throughout the program.

Based on survey results, the mentor speed dating event should be maintained as a part of the program. Survey participants felt that the event and student input into the decision helped create deeper connections with their mentors. The method is the most time intensive of the three options (Psychographic, Random, or Mentee Input), but allowed for the students to ideally be matched with their most effective mentor. However, further improvements to be made include the extension of the speed dating event and alternatives for students. The length of the speed dating event should be extended to account for the number of participants. Having a 2-hour, or more, drop-in event may be more successful. The inaugural event was too packed and many possible students may have been lost based solely on that fact. Additionally, alternatives for students who feel overwhelmed by the idea or who would prefer to be matched by the program coordinators should be advertised to encourage involvement.

Hypothesis 2 showed that students didn't feel that they made strong relationships with other mentors at the SWEsters Events, but Hypothesis 3 support shows that students did feel that they made connections with other mentees. SWEsters organized events, such as Bowling Night, Pumpkin Patch Trip, and more, were supported based solely on the connections made between mentees participating in the events. Survey respondents

agreed that they made many important connections with their peers through SWEsters. Although many students didn't feel as though they made deep connections with other mentors at the large group events, 100% of those who did preferred the SWEsters organized events to their personal mentor group meetings. Additionally, a few felt that they received more advice from a mentor who was not their own. In order to foster these relationships, more emphasis should be put into creating connections between mentees and mentors who are not their own. Mentors may have felt that their attendance was not necessary at these events but helping them realize the importance of informal mentoring and the focus of these events should be clarified in the informational meeting or training.

Based on the support of *Hypothesis 4*, most survey participants agree that the mentorship group was an important part of the SWEsters mentoring program. Only 17.7% noted the need for more one-on-one mentoring. Programs with large group events and group mentoring can cause participants who are more introverted or shy to be off-put and outshined by students who are more outgoing. In order address this need, mentors should be given more training prior to starting the program to help identify these types of students and better address their needs. In a study by Allen, Eby and Lentz (2006), prior training was shown to positively affect psychosocial mentoring. This can also help to avoid negative mentoring interactions. Ragins, Cotton, and Miller (2000) stated that not all relationships are created equal. Sometimes negative relationships were worse than no relationship at all. Additionally, mentoring goals can be set between mentors and mentees to clarify needs and goals for the relationship (Miller, 2008; Allen, et.al., 2009; Catalyst, 2003).

The fact that *Hypothesis 5* is not support showed that students felt that SWEsters didn't last the appropriate amount of time. Although no data was collected to see if participants felt like it was too long or too short, mentees were surveyed about meeting frequency. No survey participants felt that there were too many meetings and 23.5% felt that there were too few. It can be assumed students wanted more SWEsters and events and this can help to develop deeper informal and formal mentoring and social relationships. The program coordinators are still concerned about extending the program. To take the program a step further, without truly lengthening the program, is to encourage mentees to join SWE to continue to connect with mentors and continue building relationships with other women and supporters in engineering. Also, the SWEsters Program can organize 1-2 events during the winter and spring terms where mentees and mentors can continue to connect. However, it would be important to clearly state that the expectation for regular mentor-mentee meetings to lower the time commitment.

During the first year of this program, mentors were given no training on what a good mentor looks like and how to support all types of students or background knowledge about Oregon State University and its resources for students. As previously stated, only 52.9% of students agreed that SWEsters prepared them for their first year of college and 23.5% of respondents disagreed. Further training for mentors can give them the resources to help prepare students. SWEsters primarily focused on personal connections, further improvements could help provide students with resources to succeed in their first year of college, like talks about college advising, career success, and organizational and study habits. These resources could also be supported by program partners, like SWE or the WME Program.

One final area for major improvement is the role of program coordinators. This year's program was organized by the President and Vice President of SWE who were also ambassadors for the Women and Minorities in Engineering Program. It was a great way to ensure a strong first year of the program, a smooth transition for mentees between SWEsters and SWE and ease of communication between the two programs. However, this made for a huge time commitment for both. To ensure the program continues going strong, a position for SWEsters Coordinators was added as a SWE officer position.

Ultimately, students agreed that SWEsters helped connect them to other women in engineering. This meets the fundamental goals of the program. Creating a stronger network between women and minorities within the college of engineering helps these students tackle the difficulties they may face within their first year and beyond. 100% of survey participants "strongly agreed", marking 1 on the survey, that the SWEsters program should be continued in the future. Additionally, involvement in OSU SWE has grown over the last academic year, likely in result of the SWEsters mentoring program. All new SWE officers, eight in total, were members of the SWEsters program. Early involvement in leadership roles can help propel students forward in their college career. There are still additional improvements to be made, as mentioned previously: focus and emphasis on relationships between mentees and other mentors create the mentoring community; addition of 1-2 SWEsters events in winter and spring term to allow the program to span the appropriate amount of time; training for mentors on effective mentoring and OSU resources to support students that need more one-on-one mentoring or academic support; creation of mentoring goals and agreements to address the needs

and expectations of everyone; a focus on academic and professional development in conjunction; and, creation of SWEsters coordinators positions to ensure program success.

Future research on the topic could delve into long-term effects of the SWEsters mentoring program on student success and retention, especially with respect to under-represented groups on campus. Additionally, research focusing on the impact of meeting frequency, program duration, and meeting nature would help to understand what makes the mentoring program more successful. Survey participants were asked how they felt about the length of the program and many felt that it didn't span the appropriate amount of time. However, further research could focus on understanding how to adjust the duration of the program while still retaining members. Previous issues with the WEOP program arose when many students became busy and lost interest in the program. Very few definite conclusions about ideal program duration were found during literature review. Further research can address the topic of ideal program duration and retention compared to program length. Research existed for topics surrounding professional mentoring, youth mentoring, and mentoring between graduate students and faculty advisors, but very little research into the needs of collegiate mentoring was found. This type of mentoring is sweeping the nation and most schools have peer mentoring in some capacity, so further research may help these programs be more successful and effective.

The SWEsters Mentorship Program will be continued in the 2018-19 academic year. The major proposed changes have been shared with future coordinators.

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Appendix A

Survey Questions

1. Please indicate your age. 18-19; 20-23; 24+

2. How many SWEsters Events were you involved in this year? 0-2; 3-5; 6-9;
   10+

3. Did you attend the SWEsters Mentor Speed Dating IN PERSON? Yes; No

Participants were asked to rate the following questions on a 1 (Strongly Agree) – 5
(Strongly Disagree) scale.

4. I feel SWEsters Mentor Speed Dating impacted my mentor decision

5. I would have preferred that my mentor be selected randomly.

6. I would have preferred that my mentor be selected by the SWEsters Program
   Coordinators

7. I feel that my feedback from Speed Dating Event was used to select my
   mentor.

8. I feel Mentor Speed Dating created stronger mentor relationships.

9. I connected well with my mentor.

10. I received helpful professional advice from my SWEsters mentor.

11. I received helpful personal advice from my SWEsters Mentor.

12. I received more advice from a mentor that was NOT my SWEsters mentor.

13. I still meet with my SWEsters mentor now.

14. I still meet/connect with a mentor that was not my official SWEsters mentor.

15. I benefited from the SWEsters Large Group Events (Bowling, Pumpkin Patch, etc.).

16. I created strong relationships with other mentors at SWEsters Large Group Events (Bowling, Pumpkin Patch, etc.).

17. I connected with other mentees at the SWEsters Large Group Events (Bowling, Pumpkin Patch, etc.).

18. I attended SWEsters events, even when my mentor wasn't present.

19. I feel there were too many SWEsters Meetings.

20. I feel there were too few SWEsters Meetings.

21. I met many of my friends in SWEsters.

22. I felt like my mentor connected with me/my mentor group often.

23. I enjoyed having a mentorship group (i.e. 5 mentees for 1 mentor).

24. I would have preferred more one-on-one mentoring.

25. I feel that I didn't benefit from the SWEsters program because I wasn't outgoing enough.

26. I would have benefited form setting goals with my mentor.

27. I preferred SWEsters Events compared to Mentor/Mentee Meetings

28. I felt that the SWEsters Program spanned the appropriate amount of time (i.e. 1 term).

29. I felt more connected to other women in engineering because of SWEsters.

30. I feel SWEsters prepared me for my first year of college.

31. I feel that SWEsters should be continued in the future.

Appendix B

SWEsters Mentor Speed Dating Passport

SWE
Society of Women Engineers
Oregon State University

Name:
_____

SWEsters Mentor Speed Dating
21 September 2017

Aisha	Anushka	Ashley	Catherine	Chloe
Jessie	Josie	Kaylee	Kendra	Lauren K.
Lauren W.	Marisa	Molly	Monika	Nicole
Ranya		Tatiana		Tianna

What is your major?

What are you hoping to get out of being a mentee? What are you looking for in a mentor?

What do you do for fun?

What do hope to do in college? (i.e. Sorority, Study Abroad, Research, Student Clubs, etc.)

Which 3 mentors did you connect with the most?