

Gen Z's Declining Engagement with WE@RIT, a Women in Engineering Program

Ms. Kathrine Ehrlich-Scheffer, RIT

Kathy has served as Director of Women in Engineering at RIT (WE@RIT) since 2015, and brings a rich array of life experiences to the position. After graduating with a bachelor's degree in Public Affairs from a women's college where she learned first-hand the value of a female-centric support network, Kathy made her way to Silicon Valley. There she studied CMOS Mask Layout Design which eventually led her to a position in IT for a semiconductor IP start-up. Fast forward through coast-to-coast moves to Boston, San Diego and finally Rochester, Kathy spent many years in the fitness industry while raising her daughter, wearing every hat from personal trainer and cycling instructor to owner and director of Cycledelic Indoor Cycling Studio. Kathy draws upon these many diverse career and life experiences while directing WE@RIT.

In the spring of 2020, Kathy earned her Master of Science degree in Program Design, Analysis & Management through RIT's School of Individualized Study, combining concentrations in Project Management, Analytics and Research, & Group Leadership and Development.

An unabashed introvert, Kathy enjoys reading and spending time with her family, exploring the world of craft cocktails, and making a fuss over her Boston Terrier, Gatsby.

Gen Z's Declining Engagement with WE@RIT, a Women in Engineering Program

Introduction

Women in Engineering, or WE@RIT, is a program within the Kate Gleason College of Engineering (KGCOE) at Rochester Institute of Technology open to all woman-identifying students within the college. As a largely events-driven organization with only one full-time staff member, WE@RIT relies upon student staff and student volunteers to successfully implement its programming and to engage with program sponsors and stakeholders. Engagement within WE@RIT encompasses both volunteer positions as well as general participation in programs and events aimed to benefit current students. Over the past three years it has become increasingly difficult to recruit volunteers for WE@RIT's largest event, an accepted student overnight called WE Retreat; and the rate of no-shows at events targeting current students, called Kate's Hours, has skyrocketed in some cases. For example, WE Retreat saw first-year student volunteer participation rates drop from 72% of total WE Retreat volunteers in 2010, to 36% of total WE Retreat volunteers in 2019 (Fig. 1). This is a problematic trend given that up through 2019 a major draw of the WE Retreat program was to allow prospective students to experience an overnight in dormitory housing, which first-year students reside in.

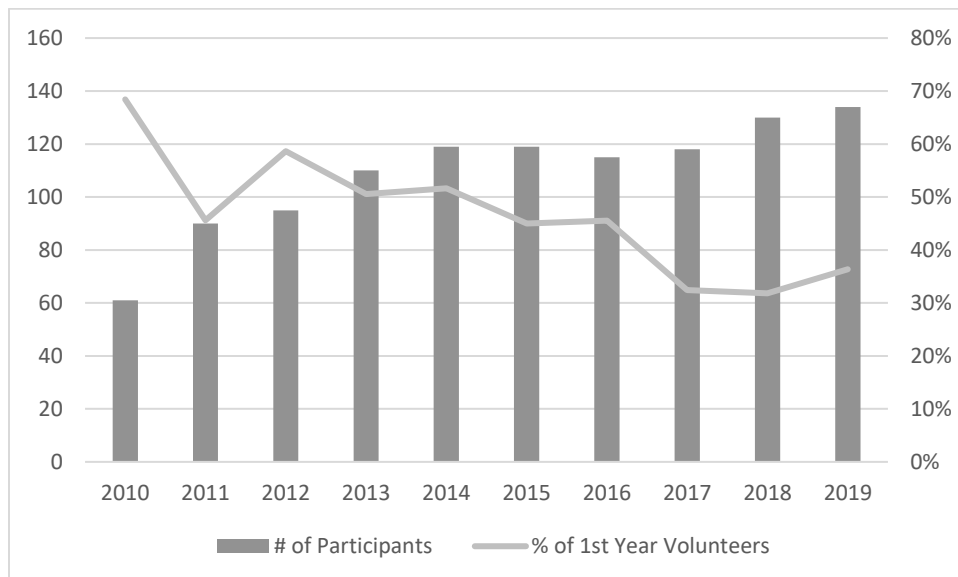


Figure 1: WE Retreat Participants vs. % of 1st Year Volunteers

While the number of WE Retreat participants has more than doubled since 2010, the percent of first-year student volunteers reduced by 50%. The previous program format (an overnight) required that the majority of volunteers be first-year students living in dorms.

With demand increasing year over year from prospective students while the percentage of 1st year volunteers steadily declined, WE@RIT was forced to make the tough decision to eliminate the overnight portion of the program beginning in 2020, as it could no longer safely and effectively meet the program demand for an overnight experience in the dorms. Furthermore, the rate of student no-shows at a Kate's Hour event featuring a KGCOE alumna was 29% in spring 2017. In spring 2018 that rate increased to 43% for a similar event, and again to 87% for a similar event in spring 2019. An effective communication and presentation workshop presented each year has shown a similar trend, with 32% of students not showing in 2017; 35% not showing in 2018, and 61% not showing in 2019. This decline in current student

engagement, both as volunteers and participants, threatens WE@RIT's ability to effectively present critical programming, as well as the ability to steward relationships with sponsors and alumnae. Perhaps more importantly, it may signal that the present current student programming and structure of WE@RIT may not be meeting the needs of the very students it seeks to serve.

To better understand the driving forces behind this decrease in current student engagement with WE@RIT, a four-pronged approach was pursued: review of national-level background research on Generation Z with the hope of identifying emerging generational engagement trends; a survey distributed to undergraduate women engineering students within KGCOE; focus groups with current undergraduate women engineering students to further clarify survey results; and contextual interviews with other campus clubs and programs to discern campus-wide engagement trends and their connection, if any, to national trends. The focus of this paper will remain on the first two elements of that approach: the review of national-level background research on Generation Z and its engagement trends, and the results of the survey distributed to the undergraduate women engineering students within KGCOE.

Who is Generation Z?

Born approximately 1995-2012, Generation Z began arriving on college campuses in the fall of 2013 and presently accounts for the entirety of traditional aged college students on campuses [1]. The changeover from the millennial cohort to that of Generation Z is far less the gentle, gradual turnover of generations past. The continuum of changing behaviors that typically deepen over time have been replaced by a sudden, generation shift [2]. Psychology professor Jean M. Twenge from San Diego State University dubs this new generation "iGen," and warns that "the changeover from millennials is one of the most pronounced ever" [3]. Furthermore, Generation Z is far different than the millennials who preceded them. Whereas the Millennials before them were known for being digitally connected, optimistic and me-centric, Generation Z is digitally native, risk-averse, pragmatic, we-centric, and places a high value on personal relationships. They are also driven, open-minded and compassionate as a cohort [4]. Technology and social media has had a tremendous impact on Generation Z, a digitally native cohort that has never known a world without screens and smartphones. However, their status as digital natives comes with the byproduct of high levels of anxiety, often manifesting itself through "FOMO," or the fear of missing out, as well as the digital fatigue that comes from being constantly connected, constantly marketed to, and constantly needing to curate multiple digital identities [4], [5], [6]. It takes more and more to capture the attention of Generation Z students, who are being bombarded with messages across multiple platforms almost constantly [7], [8].

Gen Z, the Pragmatists

Higher education is already beginning to adapt to this new cohort of students, both in and out of the classroom. Flipped classrooms, carefully selected collaborative group work assigned only to underscore self-paced intrapersonal learning, and more hands-on activities and projects are just some of the ways the classroom and its teachers are adapting [1], [7], [9], [10]. Admissions personnel stand ready to explain the value offered by their institutions considering Generation Z's concern over the rising cost of higher education. Generation Z is ultimately looking for a pragmatic education with field experience that leads to a well-paying job; not saddled with debt they will be unable to pay back

[11]. Indeed, the majority of college bound students today report that they view a college education as a means to prepare for a career, unlike their generational predecessors who viewed it as preparation for life in general [2].

Gen Z and Interpersonal Relationships

As a generation that has been digitally marketed to their entire lives, Gen Z is savvy about the optics and messaging presented to them through various media, including those of college enrollment departments. These students have “been sold a lot of stuff,” according to Corey Seemiller [4]. As a result, they are shrewd consumers who readily see through gimmicks and expect tailored, personalized experiences [7]. Generation Z does not want to be sold to; they want the opportunity to form relationships. Gen Z is above all other things a relationally motivated generation: their two biggest motivators being not wanting to let people down, followed by wanting to make a difference for others [11]. Of critical importance to Gen Z are the relationships they form with others, especially those with similar values. Interpersonal relationships are not only one of the strongest motivators for Gen Z, they are one of their biggest sources of personal happiness [4]. “With their loyalty, determination, and responsibility as well as realistic outlook on life inherited from Generation X, this generation is committed to those around them and motivated by making a difference” [4, p. 53]. Recognizing the importance that Gen Z places on relationships is critical when engaging them. Though this generation lives much of their lives online in the digital world, they very much value face-to-face interactions with honesty and transparency, both in the classroom as well as outside of it [4].

Gen Z, the Anxious

Generation Z comes to college less emotionally prepared than the millennials before them, growing up bombarded with messaging that the world is a dangerous place and that they must take precautions as they navigate it [4]. For those working in higher education, assuming they know how to handle this new cohort because they have always worked with 18-to-22 year-olds is an outdated arrogance that many institutions will not be able to afford as they compete for a dwindling number of prospective students to fill incoming class quotas. Schools in the Northeast and Midwest in particular are bracing for an up to 15% decline in the typical college-going population by the mid 2020's due to declining birth rates following the 2008 recession, as well as shifting college-choice behavior [2] [12] [13]. Today's 18-year-olds are coming to college more like 14-year-olds of previous generations, according to Jean M. Twenge [3]. They are less likely to hold part-time jobs, more likely to delay getting driver's licenses, less likely to have experimented with drinking, drugs, or to have had sex [3]. They are also far more anxious, often overwhelming campus psychological services. This anxiety is the manifestation of a multitude of things, among them their drive to succeed academically; the financial pressure of the ever-rising cost of education; their fear of failure and of risk-taking; and a life increasingly impacted by the digital world of social media [4]. Indeed, WE@RIT has experienced a dramatic uptick in the number of students “overwhelmed” academically, who are no-showing at events or not engaging with programs in order to focus on studies. Yet, the engineering curriculum has changed relatively little in the past five years; rather, the manifestation of academic stress is what has changed precipitously.

Gen Z and National Engagement Trends

One of the popular ways in which Millennials engaged with their communities was through volunteer opportunities. However, volunteerism was waning by the time trailing Millennials were finishing their time on college campuses (approximately through 2018). During their time on campus, midstream Millennials volunteered at a rate of close to 70 percent compared to trailing millennials with volunteer rates closer to 47 percent [9]. Generation Z is dropping these volunteerism rates even lower. According to Seemiller and Grace [11], approximately one third of college-bound Generation Z students plan on volunteering as part of their co-curricular activities in college. Actual volunteerism rates once on campus are closer to six percent for Generation Z students [11, p.121]. Furthermore, this decline in volunteerism is seen across the spectrums of both gender and race [11].

Yet, Generation Z is profoundly we-focused. Shouldn't their rates of volunteerism be even higher than those of me-centric Millennials? It may be the case that Generation Z isn't seeking out traditional volunteer opportunities once favored by Millennials: short-term and focused on symptoms of a greater problem [14]. Instead, it appears that Generation Z students are looking for larger-scale opportunities that target societal root causes of problems. These are students that have their sights set on making lasting impact; on changing the world for the better. They envision using their entrepreneurial tendencies to help eradicate problems at their source and bring about social change [14]. "For example, why tutor one third grader in reading when developing and instituting a literacy program could help all third graders in a community?" [4, p.275].

Generation Z comes to college with high rates of volunteerism already on their resumes, largely due to preset requirements as part of a class or society. In fact, almost 90 percent of high school seniors indicated that they were frequently engaged in community service during their final year in high school [11]. These preset requirements are often referred to not as volunteering, but as being "voluntold," something that Generation Z is pushing back against once reaching college [11, p.250].

According to Seemiller and Grace:

Given Generation Z students' lack of interest in volunteerism to begin with, these students will likely not take well to strict parameters that reflect being voluntold to serve the community in a particular way or for a particular cause. Opening up the definition of community service or volunteerism to include entrepreneurship, invention, and other engagement opportunities might overcome the reluctance of Generation Z's participation. [11, p.167]

Furthermore, Generation Z students may need to be educated on how individual choices can impact a larger problem or solution. Their we-centric, social-change-based way of looking at things can have the negative consequence of overlooking solutions at the individual level [11]. This is an opportunity for those in areas like WE@RIT to educate and engage Generation Z.

Gen Z, Meet WE@RIT

Going forward, as the data from the spring 2020 WE@RIT needs assessment survey is presented, it is important to frame the biggest characteristics of what it means to be a member of

Generation Z: possessing high academic drive yet suffering high levels of anxiety; valuing interpersonal relationships, pragmatism, and diversity; and motivated to make a difference for others (we-centric). WE@RIT has suffered three consecutive years of declining engagement in current student programming, coupled with increasing rates of no-shows at events. Taken together, these engagement trends are impacting the ability of WE@RIT to successfully present programming and engage key stakeholders including sponsors and alumni. These challenges motivated the construction and distribution of a survey in the early spring semester of 2020 to better understand how these students are presently engaging with WE@RIT, what they see as their biggest needs, and what most entices them to participate in WE@RIT programming.

Methodology

Over the course of two weeks beginning on January 20th, 2020, the WE@RIT needs assessment survey was distributed to undergraduate women engineering students within the Kate Gleason College of Engineering (KGCOE). The survey was sent to a total of 647 women students in KGCOE. All respondents who completed the survey were able to claim a token for a cup of coffee at an on-campus coffee house. A total of 270 students responded to the survey. 257 responses were ultimately included for data analysis after deleting partial responses that only answered demographic questions. The final survey response rate was 39.4%. Of the 257 who fully completed the survey, 55 collected their free token for coffee.

Beyond demographics, the survey asked respondents about their current engagement with WE@RIT programs; what they perceived as their greatest needs as a woman studying engineering; and how WE@RIT might better encourage participation in future programming.

Results

The breakdown of survey respondents by major and year can be seen below in Table 1.

Major	%	Count	Year	%	Count
Biomedical Engineering	19%	49	1st year	27%	69
Chemical Engineering	11%	29	2nd year	21%	55
Computer Engineering	7%	19	3rd year	18%	45
Electrical Engineering	12%	31	4th year	15%	39
Industrial & Systems Engineering	15%	39	5th year	19%	49
Mechanical Engineering	33%	84	Total	100%	257
MicroElectronic Engineering	2%	6			
Total	100%	257			

Table 1: Survey Respondents Engineering Major & Year

Following demographics, the survey asked respondents about their participation with WE@RIT, if any, since beginning classes as an engineering student. The intent of these questions was to narrow the scope to WE@RIT's programming for current students. When

looking at the K-12 Category, this assumes their participation as K-12 program volunteers in the Engineering Open House or WE Explore, our two K-12 outreach programs, and *not* as K-12 program participants. Likewise, when looking at New Student Programming, this assumes their participation as volunteers in either WE Retreat or WE're in Motion, our two largest programs for new students, and *not* as new students themselves. This data allows a view into how current students are currently engaging with WE@RIT, if at all, before moving on to look at their top concerns and how best they think WE@RIT should be meeting their needs.

Fig. 2 depicts the distribution to the question, “What (WE@RIT) activities have you attended as a current student (i.e. since starting classes in KGCOE)? (*Select all that apply*).” In Fig. 2 are two observations of interest: the first, is that both volunteering for K-12 programs as well as volunteering for new student programs are both areas that are community focused. This is in keeping with Seemiller and Grace’s findings on the “we-centric” focus of Gen Z students [4]. The second observation is that no prior participation in WE@RIT is the second highest ranked option for program participation, also in keeping with Seemiller and Grace’s findings on Gen Z engagement [11].

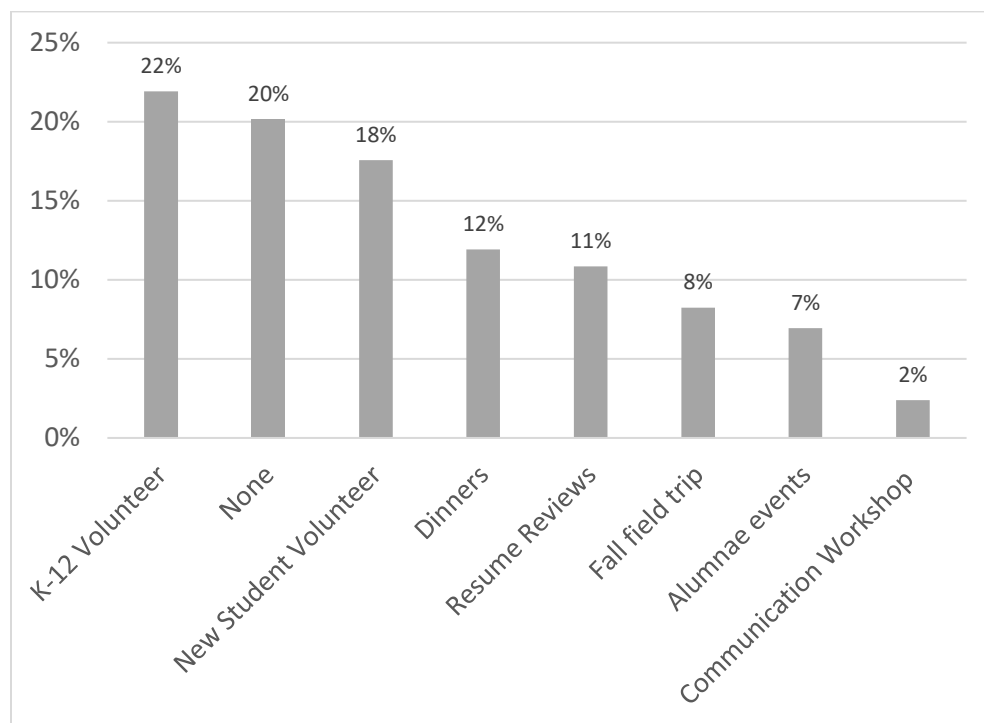


Figure 2: Participation in WE@RIT by Program Type, All Years & Majors ($n=461$; respondents selected all that apply)

Next, we asked “What is your biggest reason for participating in WE@RIT events?” The question employed display logic and was shown only to those who indicated they have actively participated in the program since beginning engineering classes. In aggregate, the answers were evenly split among the three options, with 35% selecting “personal or professional growth;” 32% selecting “to serve as a positive role model;” and 31% selecting “to make connections to other women studying engineering. When the question was broken out by year, students were far

more likely to choose making “connections to other women studying engineering” in their first-year, and far less likely to select that as their top reason for participating in WE@RIT programs in their fifth year (52% versus 16% respectively). Similarly, fifth-year students were far more likely to select “personal or professional growth” as their top reason for participation over first-year students (47% versus 26% respectively).

The final question considering current student involvement in WE@RIT programming asked, “What has been your biggest reason for not participating in WE@RIT events?” Display logic was employed so that only those respondents who answered that their involvement level in WE@RIT since beginning engineering classes was “none” would see the question. Schedule conflicts accounted for the reason that 35% of respondents had not participated in WE@RIT programming, followed by not having time to attend (26%), no interest (23%), not knowing about the program or event (12%), and 4% opting to fill in their own reason. Combining the top two reasons for not participating (schedule conflicts plus no time to attend) means that some element of time/schedule accounted for 61% of respondents that had not participated with WE@RIT programs. Given that researchers Seemiller and Grace have characterized Gen Z as pragmatic and driven, we might assume that these students are more than likely focusing on areas they deem more important, such as academics [4]. More follow-up research is needed to better understand what is taking up the time of these Gen Z students.

Next, we moved to questions about the needs of current engineering students, starting with a question that asked students to rank their top concerns as women studying engineering. The order of items shown to each respondent was randomized to reduce bias. Respondents were asked to rank concerns from high (closer to 1) to low (closer to 9).

Shown in Fig. 3, women engineering students in KGCOE placed succeeding academically within their engineering curriculum at the top of their list of concerns, followed by finding a full-time job/co-op, and self-care issues. Even when later broken out by year and major (not shown), the results largely remained the same at both the top and bottom of the list of concerns these women had. Given that Gen Z is driven and pragmatic [4], seeing the completion of a degree as a path to a well-paying job [11], these findings are also in keeping with what is known nationally about Gen Z. Of special note is the fact that feeling connected to other women studying engineering, as well as the environment for/acceptance of women in KGCOE were consistently at the bottom of ranked concerns for these students; what remains unknown is why or how these ranked concerns have evolved for women in KGCOE prior to the spring of 2020, as well as why the environment for women in KGCOE consistently ranked at the bottom of the list while succeeding academically consistently remained at the top across all years and majors. More research is needed to better understand the rationale behind these rankings.

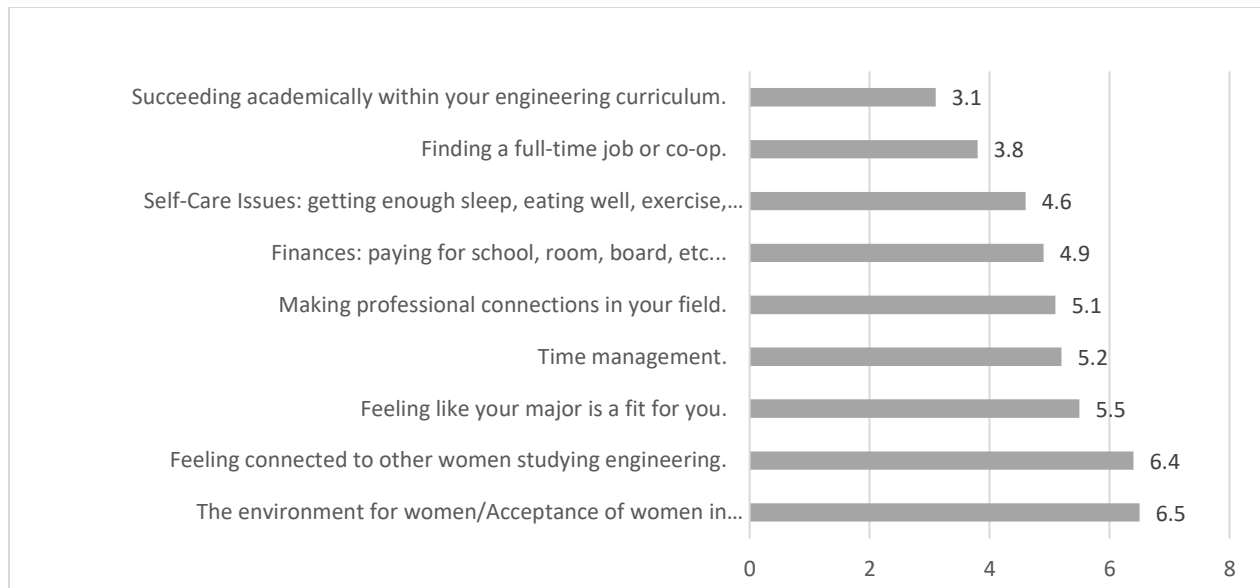


Figure 3: Top Student Concerns Ranked: Aggregate Mean, All Majors & Years
(n = 248); Ranked from High (closer to 1) to Low (closer to 9)

In the Fall of 2020, this same question was posed again to gauge what effect, if any, COVID-19 had on the way students ranked these concerns. To do so, COVID-19 was simply added to “Self-Care Issues” as the first item of explanation. The results are shown in Fig. 4 below. Though there was some shifting of items in the middle of the chart, the top and bottom two concerns remain unchanged from the spring semester and the onset of the COVID-19 pandemic.

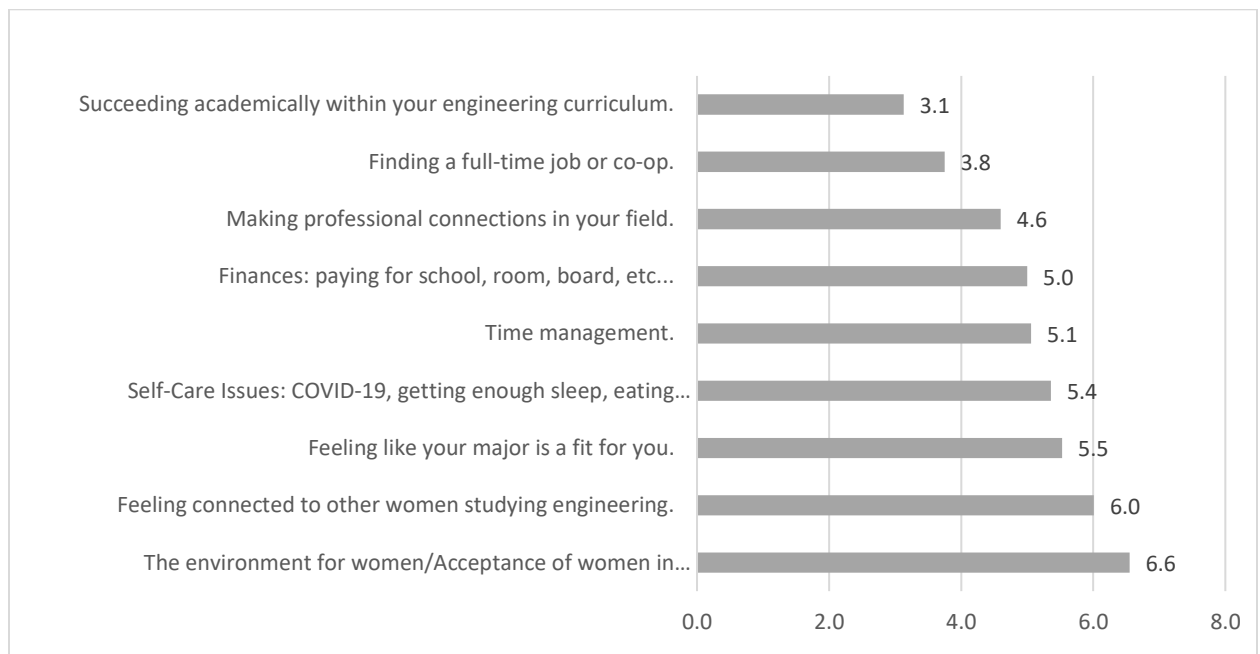


Figure 4: Top Student Concerns Ranked: Aggregate Mean, All Majors & Years Fall 2020
(n=215; response rate 33%); Ranked from High (closer to 1) to Low (closer to 9)

Following concerns, we asked respondents about program categories: in essence, how should the WE@RIT program go about meeting the perceived needs of these engineering students? Fig. 5 displays graphically the distribution of the question “The following twelve items represent program categories found at women in engineering programs around the country. Please indicate out of a score of 100 how important you think each program category is. 100 means that you think WE@RIT should devote all necessary resources to ensure the success of that program category; 0 means that you do not think WE@RIT should devote resources to that program category at all.” The range for each item response was 0 to 100. The mean is displayed for each program category.

The purpose of this survey was to identify areas of concern for current students, as well as ways WE@RIT might address those needs programmatically in the future. We felt it important to see how current students would rate WE@RIT’s new student recruitment initiatives as well as K-12 outreach programming (technically outside the scope of this survey) in relation to potential programs targeting current students (the scope of this survey). The results shown in Fig. 5 suggest that current students see the need and importance of these key WE@RIT program areas, not only for their intended audiences, but presumably towards their own goals for program participation in WE@RIT, such as serving as a role model, personal/professional growth, and making connections with other women studying engineering.

There is another point of interest in Fig. 5, and that is the fact that WE@RIT does not presently offer any programming listed in the top five program areas following K-12 outreach and new student recruitment. WE@RIT does not offer tutoring or study help; does not offer corporate meet-n-greets, per se; does not have any formalized, ongoing mentoring programs, and does not operate a living/learning community. Therefore, the argument can be made that at present time, WE@RIT programming is most likely not meeting the needs of its current student constituents. However, more research is needed to better understand the top concerns of women in KGCOE, and how those concerns tie into the programs ranked as ones WE@RIT should be developing and presenting for its current student population.

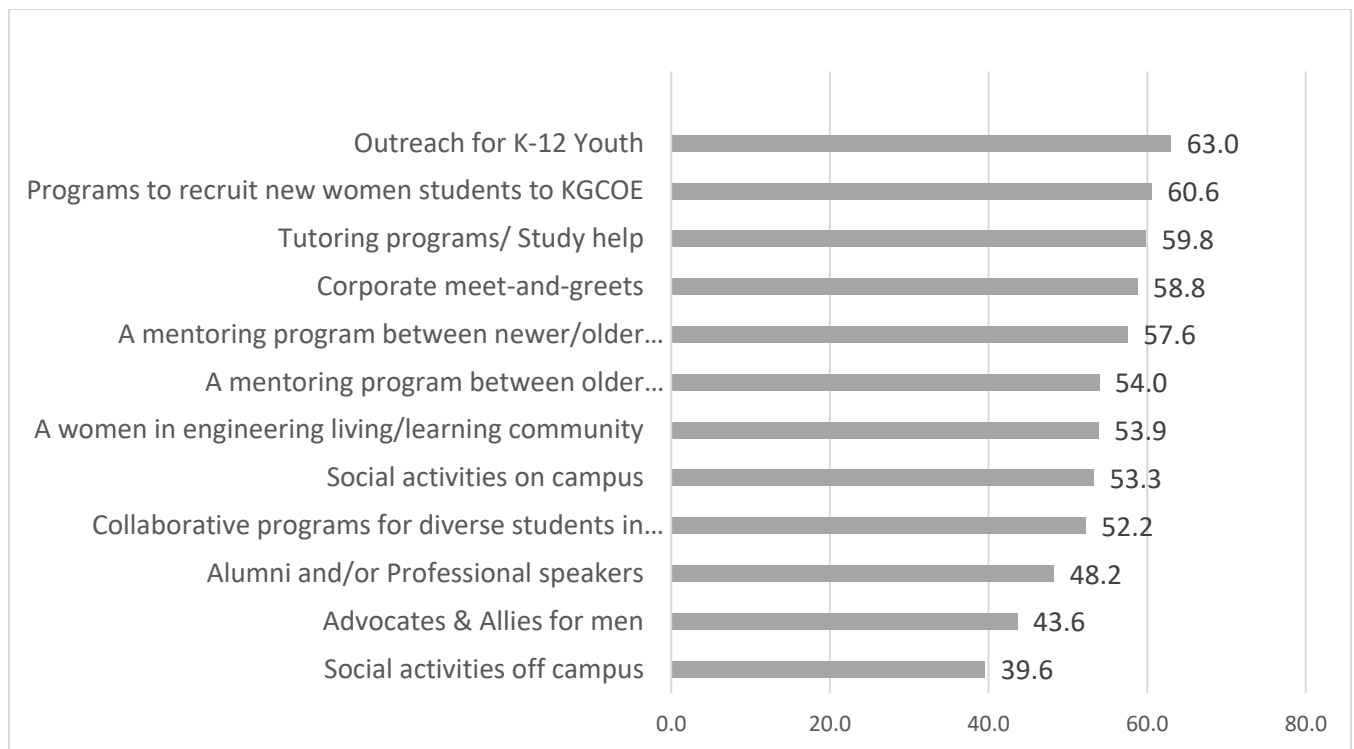


Figure 5: Program Areas Rated: All Years & Majors
($n=240$); Respondents assigned a score to each program category between 0 (should not offer) and 100 (should definitely offer)

The final area the WE@RIT needs assessment survey considered was how to best encourage student participation in WE@RIT programming. In doing so, we considered not only the event itself, but how it was marketed to current students. Student response and engagement with WE@RIT email messages has been steadily decreasing over the past several years. To better understand how students wish to receive communication from WE@RIT, the following survey question was posed: “What are the two best methods to publicize WE@RIT programs to you? (please select two).” The results to the question can be seen below in Fig. 6.

Somewhat surprisingly, e-mail emerged as the preferred method of communication for current students. A follow-up question (not shown graphically) asked about reminder emails versus reminder texts. For the 238 students responding, 89% find email event reminders helpful, while only 47% find text reminders helpful, and a full 53% find text reminders annoying. What is unknown is how students prefer communication when balanced against perceived program importance. For instance, if a student deems the program more important, do they prefer a different method of communication? More research is needed to better understand these communication preferences, especially since it is understood that Gen Z has a general disdain for e-mail, much preferring shorter bursts of communication via social platforms or messaging apps [4].

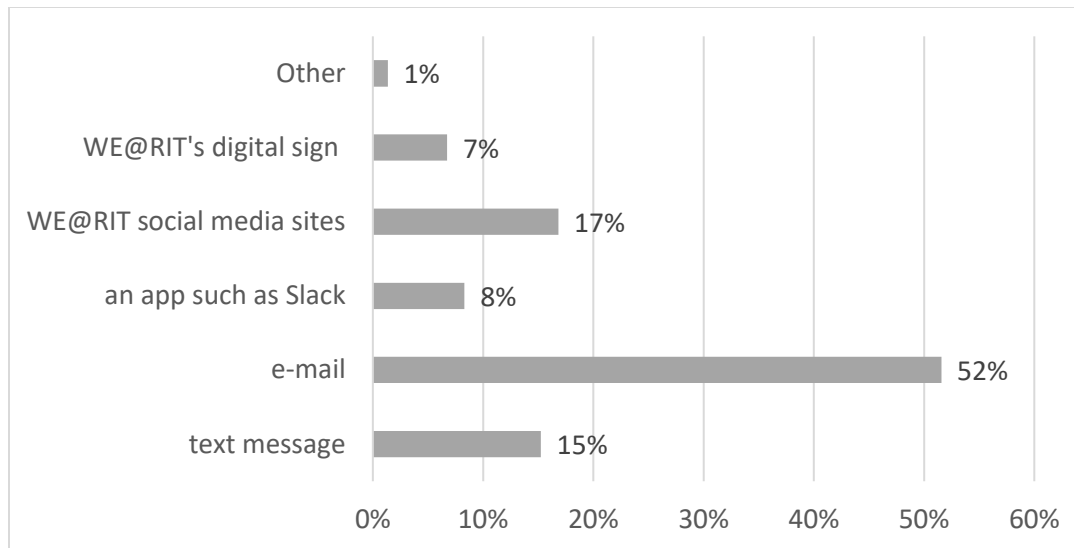


Figure 6: Best Way to Communicate to Current Students, all Years & Majors
(*n=446; could select two*)

It has long been held that if free food is available, college students will attend. However, WE@RIT has been noticing an engagement decline despite the availability of food at programs and events. To better understand this, the following survey question was posed, and results shown graphically below in Fig. 7: “What is most likely to incentivize you to show up to an event?” Students could only select one answer, and a text entry option of “Other” was also allowed.

Given how important relationships are to Gen Z students, it was not surprising to see that the major draw to any program or event was knowing that their friends would be attending (52%), with food only chosen as the top reason for attendance by 35% of respondents. For those respondents opting to provide their own text entry, time/schedule availability emerged as a top consideration, followed by the perceived usefulness or importance of the program/event (professional connections, professional development, serving as a role model, giving back to the community, and interesting topic or activity were all things listed.) Only one respondent was incentivized by knowing that the event or program could count toward volunteer hours.

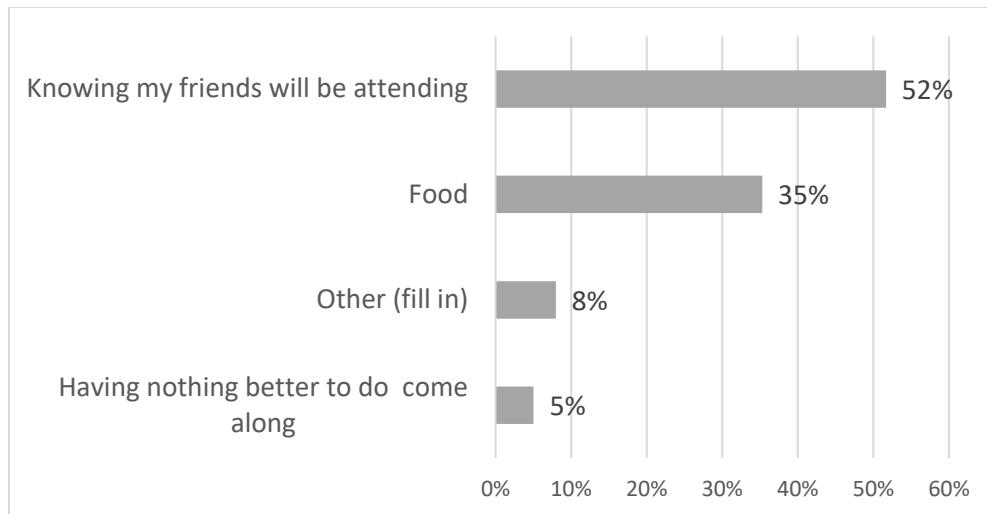


Figure 7: What Incentivizes Current Students to Attend a Program, All Years & Majors ($n=238$)

Conclusions

WE@RIT's spring 2020 needs assessment survey served as a foundational starting point in better understanding the declining engagement trends among current students that WE@RIT has been experiencing over the past several years by considering how students are currently engaging with WE@RIT, the top concerns of current students, their perceived programmatic needs, and the most effective ways to encourage their participation in programming going forward. Students consistently ranked academic success as their top concern across years and majors, with gender concerns remaining at or near the bottom. While this ranking underscores the driven, pragmatic, and anxious nature of Gen Z students, future research should take a closer look to confirm the survey's findings and to better understand why the concerns fall as they do. Specifically, what role does engineering identity play in the ranking of gender concerns at the bottom of this list? How can a program like WE@RIT best work to assist students in succeeding in their engineering curriculum? Are other programs, departments, or clubs also seeing changing engagement because of academic stress manifesting differently than in the past? Can anything be generalized about what works and what does not work as well to engage Gen Z students?

Programmatically, the survey revealed that WE@RIT is missing the mark on meeting its current students' perceived needs. Follow-up is needed to better understand how WE@RIT can implement programming that better aligns with students' top concerns. Specifically, how should WE@RIT best implement programming that supports the academic success of students without duplicating efforts already in existence? What should WE@RIT be doing to better connect students with corporate partners? How can WE@RIT better build ongoing community for this highly relational cohort?

Finally, like many organizations, WE@RIT struggles with capturing the attention of this cohort of students who are less and less likely to read or respond to email, more likely to engage

with video content in short bursts, and highly motivated by their network of friends. WE@RIT needs to look more deeply into how to leverage students' social networks to publicize program information and also when it is appropriate to do so. For instance, though WE@RIT does not have a presence on Snapchat, Gen Z students certainly do. Are there instances when having students utilize their own story networks to market program information is effective and appropriate? What about the top-down structure of WE@RIT? Would integrating more current student voice into the program planning and implementation improve marketing and student program engagement?

The answers to many of these questions require qualitative follow up with WE@RIT stakeholders: current students, and other RIT programs, departments, and clubs. What is clear is that implementing the same WE@RIT program playbook written at the height of the millennial era, full of large, one-off events is not effectively engaging this new cohort of students. Gen Z students are anxious, pragmatic, driven, and relational; traits that are already discernable to WE@RIT as we interact with this new cohort of students. Meeting the needs of this cohort will require adaptation, flexibility and above all, understanding.

References

- [1] T. Wiedmer, "Generations Do Differ: Best Practices in Leading Traditionalists, Boomers, and Generations X, Y, and Z," (in English), *Delta Kappa Gamma Bulletin*, vol. 82, no. 1, Fall 2015, pp. 51-58.
- [2] J. J. Selingo, "The new generation of students: how colleges can recruit, teach, and serve Gen Z," Washington, DC, 2018. [Online]. Available: <https://store.chronicle.com/collections/temphome-page-best-sellers/products/the-new-generation-of-students>.
- [3] J. M. Twenge, *iGen: Why Today's Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy--and Completely Unprepared for Adulthood--and What That Means for the Rest of Us*. Atria Books, 2017.
- [4] C. Seemiller and M. Grace, *Generation Z : A Century in the Making*. Milton, UNITED KINGDOM: Routledge, 2018.
- [5] B. R. Bell, "Technostress from the perspective of college students: A basic qualitative study," Ph.D., Capella University, Ann Arbor, 10134324, 2016. [Online]. Available: <http://ezproxy.rit.edu/login?url=https://search.proquest.com/docview/1811433830?accountid=108>.
- [6] L. F. Bright and K. Logan, "Is my fear of missing out (FOMO) causing fatigue? Advertising, social media fatigue, and the implications for consumers and brands," (in English), *Internet Research*, vol. 28, no. 5, pp. 1213-1227, 2018 doi: <http://dx.doi.org/10.1108/IntR-03-2017-0112>.
- [7] L. Pappano, "The iGen Shift: Colleges Are Changing to Reach the Next Generation," (in English), *New York Times (Online)*, 2018 Aug 02.
- [8] "Use Short Videos to Engage Generation Z," *Nonprofit Communications Report*, vol. 17, no. 3, pp. 3-3, 2019, doi: 10.1002/npcr.31135.
- [9] P. C. Rickes, "Generations in Flux: How Gen Z Will Continue to Transform Higher Education Space," (in English), *Planning for Higher Education*, vol. 44, no. 4, pp. 21-45, Jul-Sep 2016.
- [10] K. Moore, C. Jones, and R. S. Frazier, "Engineering Education for Generation Z," (in English), *American Journal of Engineering Education*, vol. 8, no. 2, pp. 111-126, Dec 2017.
- [11] C. Seemiller and M. Grace, *Generation Z Goes to College*, 1 ed. New York: John Wiley & Sons, Incorporated (in English), 2015, p. 196.
- [12] B. Conley, "The Great Enrollment Crash," *The Chronicle of Higher Education*, September 6, 2019. [Online]. Available at <https://www.chronicle.com/article/the-great-enrollment-crash/>.
- [13] S. Jaschik, "Are prospective students about to disappear?" *Inside Higher Ed*, January 8, 2018. [Online]. Available:

<https://www.insidehighered.com/admissions/article/2018/01/08/new-book-argues-most-colleges-are-about-face-significant-decline>.

- [14] C. Seemiller and M. Grace, "Generation Z: Educating and Engaging the Next Generation of Students," (in English), *About Campus*, vol. 22, no. 3, pp. 21-26, Jul 2017, doi: <http://dx.doi.org/10.1002/abc.21293>.