



Supporting the Mental Health and Wellness of Chemical Engineering Students at the Department and College Levels

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Abstract

Concerns about the mental health and wellness of college students have been growing, and many believe the nation is now faced with a mental health crisis. Suicide rates and the number of students seeking help have both increased in recent years. Universities have been scrambling to respond to the increased demand for mental health resources, and many educators have found themselves at a loss about what to do to help students who approach them with mental health concerns.

At The Ohio State University, several mental health and wellness initiatives are underway within the Department of Chemical and Biomolecular Engineering (CBE) and the College of Engineering. A 2018 survey of CBE undergraduate students revealed alarming rates of self-reported mental health issues. In response, a CBE Wellness Committee of faculty and staff members was created. The committee's goals are to 1) increase student/faculty and student/student interaction, 2) foster open discussion about mental health to help destigmatize mental illness, 3) inform students about the mental health resources available to them, 4) raise awareness among faculty members about the types of pressures and difficulties their students may be facing, and 5) train students to be continually aware of the mental health and wellness of themselves and others. In support of these goals, several different types of wellness events are held during the academic year (approximately 10 events per semester), information about on- and off-campus mental health resources has been posted throughout the building, and faculty members are working together on exam scheduling to avoid overloading students.

At the college level, a Mental Health Round Table has been created where faculty members and students from all departments come together with college administrators to discuss how they are creating cultures of caring within their departments. Round table meetings also provide a forum where educators and students can learn from and give feedback to representatives from university resources such as Counseling and Consultation Services and the Suicide and Mental Health Task Force. The round table meets twice per semester.

1 Introduction

Rates of mental health disorders in college students have been steadily increasing over time¹, and suicide rates among 15–24 year-olds increased by 80% between 2000 and 2016².

A survey of 135 chemical engineering students at The Ohio State University revealed that an

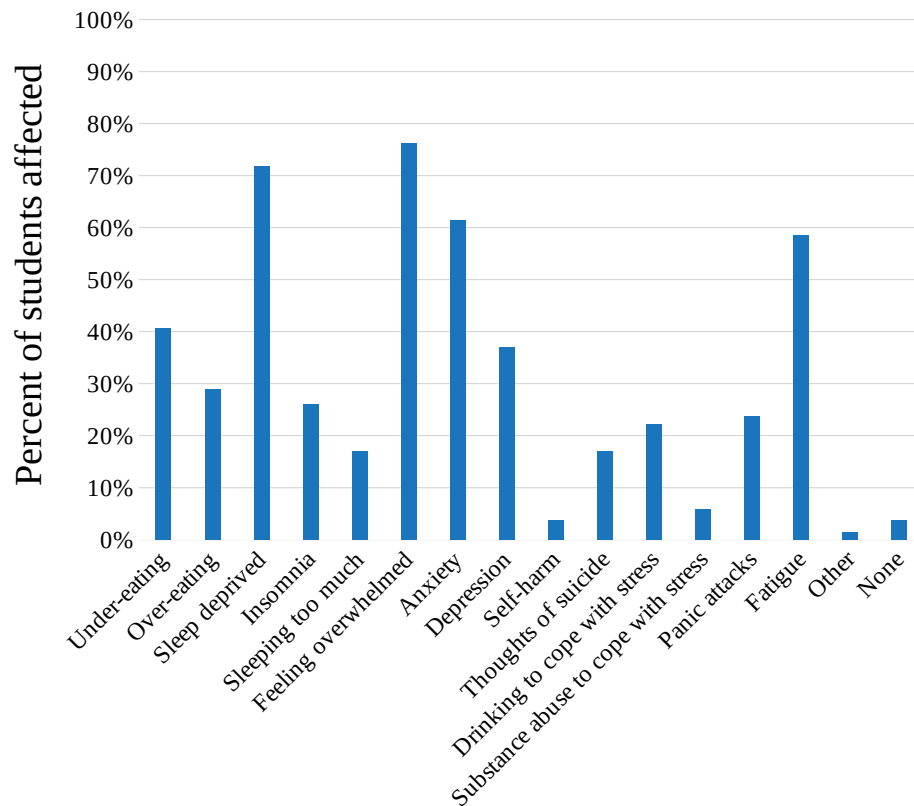


Figure 1: Results from CBE student survey: “With what health issues do you struggle during the academic year? Select all that apply.”

alarming number were experiencing mental health issues such as anxiety, depression, and thoughts of suicide. Figure 1 shows the survey results for the question “With what health issues do you struggle during the academic year? Select all that apply.” Subsequent surveys in other departments showed remarkably similar trends.

Universities across the country recognize the problem and are trying to respond. Nearly all offer counseling and mental health services to students. Even so, and despite the high number of students reporting serious mental health concerns, most students do not seek help from their university’s mental health services³. In the survey of CBE students conducted at Ohio State in 2018, 81% of respondents reported that they had not tried to schedule an appointment with the university’s Counseling and Consultation Services, suggesting that students are reluctant to seek out help. Studies have shown that university students are likely to hide their mental health difficulties due to fear of discrimination, but that students who disclose mental health conditions have improved outcomes compared to those who do not⁴.

Clearly, the availability of counseling and mental health services is not sufficient to support the mental health of college students. However, mental health is a strong predictor of academic performance⁵ and productivity in the workplace⁶, so if the goal of engineering departments is to prepare their students for success, they must address and support the mental health of their students.

Engineering departments are also in a unique position to impact students because of the sheer number of faculty members. While faculty members may feel overwhelmed by the number of students they teach, the counselors and therapists at university counseling and mental health services are even more outnumbered; the university student to faculty ratio national average is about 20:1⁷, while the ratio of university counselors to students is about 1,600:1⁸. Faculty members also have daily interactions with students, while counselors and therapists do not, giving faculty members an extraordinary opportunity to impact their students' mental health.

With this in mind, the CBE department at Ohio State formed a Wellness Committee in 2018 consisting of two junior faculty members, two staff members (undergraduate academic advisors), and a group of student volunteers. The committee developed several initiatives to promote the mental health and wellness of CBE students.

2 Mission of Wellness Committee

The CBE Wellness Committee was formed with five goals in mind:

1. Increase student/faculty and student/student interaction
2. Foster open discussion about mental health to help destigmatize mental illness
3. Inform students about the mental health resources available to them
4. Raise awareness among faculty members about the types of pressures and difficulties their students may be facing
5. Train students to be continually aware of the mental health and wellness of themselves and others

The following sections will describe the committee's reasoning for selecting these five goals. The reader should bear in mind that the decision to adopt these particular objectives was based on the committee members' personal experiences, conversations with students, the university resources available, and the atmosphere and culture of this specific department. The initiatives described here may not be appropriate in every chemical engineering department or at every university.

2.1 Increasing student/faculty and student/student interaction

The CBE Wellness Committee recognized that it is important for students with mental health concerns to have someone they can talk to about what they are experiencing. However, for various reasons students may not be able to discuss their concerns with friends or family members. For example, students are often afraid to share mental health concerns with their family members because they don't want to cause them to worry. In other cases students are afraid that

sharing such concerns may negatively impact their relationships with their friends and family members.

In order to make sure students have someone they are comfortable speaking to about such personal issues, the committee set a goal of creating situations where students can interact with one another, especially in contexts where mental health is discussed. It was also hoped that giving students the chance to interact with their professors would have the effect of “humanizing” faculty members and making them seem less intimidating and more approachable.

2.2 Fostering open discussion about mental health to help destigmatize mental illness

This objective was adopted because of feedback from students who were hesitant to take advantage of university mental health resources out of a fear of judgment from others, or out of a sense of shame or failure associated with experiencing mental health conditions.

In a 2005 study of a large, public, Midwestern university, four of the top ten reasons given by students for why they had not received treatment for mental or emotional health were related to fears of others finding out: “I worry what others will think of me,” “I am concerned about privacy,” “I worry that someone will notify my parents,” and “I worry that my actions will be on my academic record.”³

Students have reported that simply hearing their instructors or classmates mention the existence of mental health conditions like depression and anxiety makes them more comfortable sharing their own experiences with these issues. Better still, students report that hearing from others who have experienced similar issues makes them feel less isolated and less self-conscious about their conditions. Such anecdotes are in line with research showing that indirect and direct contact with stigmatized groups reduces stigmatization⁹.

2.3 Informing students about the mental health resources available to them

Ohio State has a Counseling and Consultation Services (CCS) organization that provides students with limited free access to mental health care, including one-on-one sessions with certified therapists, group therapy sessions, workshops, and other options. Students are widely aware of the existence of CCS but often are not aware of the full range of resources offered. Students often expect that by contacting CCS they will be able to schedule a one-on-one session with a counselor, but one-on-one counseling isn’t the most appropriate option in every case, and the number of available appointments is limited. This mismatch between what students expect from CCS and what CCS can reasonably provide sometimes results in students experiencing long wait times and ultimately feeling let down by the system.

For these reasons, the committee identified a goal of informing students about other resources available to them, both from the university and from other sources.

2.4 Raising awareness among faculty members about the types of pressures and difficulties their students may be facing

Faculty members are often out of touch with their students. Not only do they not remember what it was like to be a college student, the experience of being a student has changed considerably

since the time that most faculty members attended school.

Completing a four-year degree is now an expectation, not a luxury, and the cost of education has been steadily rising. Many students have full-time jobs; in a recent poll of 165 CBE students at Ohio State, more than 50% reported having jobs in addition to being full-time students. The student population is also much more diverse – some have medical conditions, disabilities, children, or are care-givers to their parents or other family members. Many experience issues dealing with personal relationships, and social media places tremendous pressure on students to appear perfect. Nearly all experience anxiety about finding employment after graduation.

Some faculty members may feel that chemical engineering is – and should be – difficult, and if students can't handle it they simply shouldn't be chemical engineers. Indeed, some of the difficulties students encounter in their studies may be associated with understanding the subject matter, and cannot be avoided without sacrificing the rigor of the degree program. But other hardships may be imposed by instructors unnecessarily or unknowingly, and these may actually decrease student performance. So at the very least, faculty members should be sensitive to the effects they have on their students and make choices that maximize their students' learning.

2.5 Training students to be continually aware of the mental health and wellness of themselves and others

Promoting wellness in schools has been shown to improve mental and physical health¹⁰, and university students who value their health demonstrate increased psychological well-being¹¹. For this reason, the committee chose to adopt a goal of promoting self-awareness of mental health and wellness among students.

In the survey results shown in Figure 1, approximately 17% of students reported experiencing thoughts of suicide. In the two years preceding the formation of the CBE Wellness Committee, two CBE students at Ohio State died from suicide. In many cases of suicide, warning signs are present that may alert others that an individual is at risk. Of course, this is only possible if those in contact with the individual are able to recognize warning signs. For this reason, the CBE Wellness Committee included awareness of the mental health and wellness of others as a target outcome for students.

To make sure that CBE students would be able to recognize suicide warning signs, the committee made it a goal for every student to go through a suicide prevention training twice in their time in the department: once in their second year and once in their fourth year.

3 Programming, events and activities

The CBE Wellness Committee has developed a range of different activities and events to achieve the goals described in the previous section. These are listed below.

1. Coffee with a Prof

These hour-long events, held 4–5 times per semester, feature free donuts and coffee for students, along with the opportunity to meet and talk with their faculty members. A typical event has about 20 students and 2 faculty members in attendance. A topic for the day is

selected by the faculty members, who share their personal thoughts and experiences related to the topic for 5-10 minutes each. They then open up the floor to the students for questions and discussion.

Topics of discussion in the past have included:

- Imposter syndrome
- Resilience after failure
- Fear of failure
- Fear of missing out
- Working with difficult people / different personality types
- Making big decisions
- Managing life transitions
- Anxiety about choice of major / career path

Approximately half of all faculty members in the department have participated. Events are advertised to students by email a few days in advance, and again immediately beforehand. Students are informed about the topic ahead of time so that they can prepare questions.

A CBE Wellness Committee faculty member is in attendance at each event to introduce the speakers and to help guide the conversation.

2. Pizza with the Chair

The programming of these one-hour events is very similar to that of the Coffee with a Prof events. Free pizza and soft drinks are provided for students, and the department chair shares her thoughts and experiences on a topic or topics. These events are offered twice per semester.

3. Exam scheduling coordination

One of the most popular changes to come from the CBE Wellness Committee initiatives has been a change to exam scheduling within the department. As shown in the survey results in Figure 1, over 70% of students reported being sleep deprived, and more than 75% reported feeling overwhelmed during the academic year. Feedback from students suggested that they most often experience these symptoms when they have several exams in a short period of time. E.g. if they have two exams in one day they may stay up the entire night beforehand studying.

There is no need for exams to be scheduled on the same day; a quick investigation showed it was simply due to chance and lack of communication between instructors. Now, instructors for senior-level courses communicate with one another and avoid scheduling more than one exam on the same day. Junior-level course instructors do the same. Feedback from students about this change has been overwhelmingly positive, and the effort required from instructors is minimal.

4. Suicide prevention gatekeeper training

Ohio State offers a free suicide prevention gatekeeper training program, known as REACH (<https://suicideprevention.osu.edu/reach/>), to departments upon request. The CBE department schedules two training events each semester. To ensure student attendance at the training, incentives are offered in one sophomore-level course and one senior-level course. In both courses, instructors choose what type of incentive they want to offer; to date all have chosen homework forgiveness (i.e. allow students to skip a homework assignment with no penalty). The committee has found that if attendance is not incentivized in class, attendance at the training is very poor (almost zero), but by incentivizing the training nearly 250 students have chosen to attend in the past calendar year.

5. Student mental health and wellness included as an agenda item in all faculty meetings.

During the 2018-2019 academic year, student mental health and wellness was included as an agenda item at every department faculty meeting and at the department's advisory board meetings. Discussion topics included:

- (a) Wellness survey results
- (b) What types of initiatives would best serve students
- (c) Identifying faculty members and topics for Coffee with a Prof events
- (d) Informing faculty members about how they should respond when students approach them with mental health concerns
- (e) Feedback from initiatives and events

In addition to the obvious implications for planning and event logistics, discussing student wellness in faculty meetings keeps the topic fresh in faculty members' minds, hopefully making them more aware of and sensitive to their students' mental health concerns.

6. Mental health resource handouts

To address the goal of informing students about some of the mental health resources available to them (see Section 2.3), a mental health resources flyer was created by the committee. Various pamphlets describing on-campus resources are available from different organizations at Ohio State (CCS, Wellness Center, Student Health Center, Office of Student Life, etc.) but the committee wanted to create a flyer specifically targeted to CBE students that would also include off-campus resources.

One of the most important aspects of the flyer is that it explains what students should expect when contacting CCS, since many have expectations that don't match the availability of services.

Symptoms of mental health disorders may be more or less severe, so an effort was made to include a range of options, from warm lines to non-suicide-related crisis lines, to suicide hot lines. Text lines were also included, since many young adults are more comfortable communicating via text message than over the phone.

A list of local therapists who accept the student health insurance plan was also included to give students a back-up option if they experience long wait times at CCS or are not directed to one-on-one counseling.

The mental health resource flyers were printed and distributed throughout the chemical engineering building in folders labeled “Take One.” Nearly 200 copies of the flyers have been taken from the folders in the last year. The flyers were also distributed to all students who attended the suicide prevention gatekeeper training.

A matrix showing the relationship between the committee’s goals and the activities / events developed to address them is shown in Figure 2.

	Interaction	Discussion of mental health	Inform about resources	Faculty awareness	Awareness of self and others
Coffee with a Prof	x	x		x	
Pizza with the Chair	x	x		x	
Exam scheduling				x	
Suicide prevention gatekeeper training		x			x
Student mental health as faculty meeting agenda item		x		x	
Mental health resource handouts			x		

Figure 2: Matrix of connections between committee goals and events / activities

4 College-level initiatives

This section summarizes student mental health initiatives at the college level (within the College of Engineering) at Ohio State. While faculty and staff members within individual engineering departments are the most effective means for positively impacting student mental health, due to their close contact with students, it is important for departments to realize that they don’t have to tackle the problem all on their own. They can coordinate with other departments, with their

college, and with their university to share ideas, resources, and experiences.

With this in mind, engineering departments should expect and demand support and resources from their college- and university-level administrations. To ensure that all departments are informed about the issue of student mental health and have some guidance on what they can do to support their students, the college and university should foster communication and coordination among departments and between university mental health services and the departments.

At Ohio State, a mental health round table in the College of Engineering was established in Autumn 2018 in response to both student concerns and the release of a report from a university task force on suicide and mental health. The Associate Dean for Undergraduate Education and Student Services convened representatives from every degree program in the College (15 total). The philosophy was to provide a collaborative space to share ideas and information across programs and to emphasize that the most promising place for impacting these issues was at the local level. Each program was asked to send one or more faculty members, staff members, graduate students, and undergraduate students.

At the first meeting the results from the CBE survey were shared and immediately generated interest in delivering similar surveys in other units. A theme from the discussion of those results emerged that highlighted the role that faculty could play by acknowledging these issues directly in the classroom. Faculty were understandably nervous about being responsible for counseling and did not feel prepared to deal with suicidality. The strategy to address their concerns was to have undergraduate students present their survey results in faculty meetings and begin to break down communication barriers organically. The starting point for faculty became just “being human” and vocalizing an understanding that mental health disorders are real and that even they (the faculty) struggled as students.

A particularly powerful meeting was a presentation and discussion by the mother of a student who had recently died from suicide. This was carried out with extreme caution and sensitivity but in the end was extremely helpful for faculty, staff and students to hear about detailed behaviors and conversations with her son none of which were indicative of a mental health issue or depression.

The College has also invested in staff positions to expand the capacity of CCS. Engineering supports 1.5 Full-Time Equivalent (FTE) for “embedded counselors” in engineering (the other 0.5 FTE is supported by the College of Business). These embedded counselors are provided office space in locations easily accessible to engineering students while still officially serving as part of the CCS staff. They spend 1 day per week and most of the summer term in the central CCS offices to maintain professional working relationships with their colleagues. The university currently has 9 or so of these embedded positions across the campus. The college’s embedded counselors attend the round table which has also been a mechanism for dialogue between CCS staff and students on issues of access to services.

In the second year, the round table has settled on a schedule of two meetings per semester (beginning and end). The initial meeting includes guest speakers and presentation of resources or ideas while the end of semester meeting includes report-outs from each program. In this way, results and activities can be shared and discussed.

5 Comment

Based on observations from Wellness Committee members and feedback from students, the mental health and wellness programming created in the CBE department at Ohio State has been highly successful. Over 200 students have attended suicide prevention gatekeeper training, and nearly that number have attended Coffee with a Prof and Pizza with the Chair events where they had the chance to interact with each other and with faculty members while discussing mental health-related topics.

The cost to the department in money and time has been minimal. The four faculty and staff members on the committee each spend 20–40 hours per semester on committee-related activities, and the department has spent less than \$1,000 on catering for the coffee and pizza events.

At the college level, besides the cost of the 1.5 FTE “embedded counselors” for engineering students, the administrative cost to arrange the round table events has been minimal. The college has spent around \$1,000 on catering for round table events.

Despite the low cost, the mental health initiatives have not gone unnoticed by students; even those who have not attended any department or college events have expressed their appreciation for the effort that is being made. There is a new perception among students that the faculty and staff members in the department care about them and their mental health.

Apart from the progress toward the committee’s goals, perhaps the most beneficial outcome from the new focus on student mental health is that faculty members have been able to develop a vocabulary to discuss mental health-related issues, along with a sensitivity to and improved understanding of the experiences of students who are struggling. Being able to engage with a student in crisis without fear of saying the wrong thing, and being able to provide more help than just directing them to CCS is an empowering and valuable skill for faculty members.

The mental health resources handout created by the committee is included as an appendix to this paper, and the authors are happy to share any other materials or resources, or information about the activities or experiences of the committee members upon request.

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It's OK to ask for help

Mental Wellness is important! Help yourself or another Buckeye by taking this sheet.

Emergencies

If you or someone you know is in immediate danger, please call 911

Suicide Prevention Hotlines

Columbus Hotline: (614) 221-5445
National Hotline: (800) 273-8255
LGBT (Trevor Project) Phone: (866) 488-7386 Text: "START" to 678-678

Counseling and Consultation Services

Front Desk: (614) 292-5766
After Hours Service (evenings, weekends, and holidays):
(614) 292-5766 (press 2)

Website: ccs.osu.edu
To schedule a phone screening:
ccs.osu.edu/schedule-a-phone-screening/

CCS is more than just one-on-one counseling sessions. You may be referred to group therapy, or directed to other resources. Students with the most urgent needs are seen first. If CCS isn't right for you, try searching the CCS Community Provider Database (ccs.osu.edu/cpd), or consider another resource on this flyer.

Other Local Counselors include:
Holistic Consultation: (614) 607-0980
Keller Counseling: (614) 869-4816
Providers for Healthy Living: (614) 664-3595

Buckeye Peer Access Line

Buckeye PAL operates weekdays from 8 p.m. to midnight when classes are in session during fall and spring semesters. Call 614-514-3333. The Buckeye Peer Access Line (PAL) is a non-emergency talk line that provides a space for students to engage in brief phone conversations for support and learn about campus resources.

Common conversation topics with Buckeye PAL include: adjusting to college and university life, balancing stress management, managing platonic, romantic and family relationships, feeling pressure to succeed, and navigating personal and social identities.

Emotional Health Questions and Answers

Go Ask Alice:
goaskalice.columbia.edu/category/emotional-health

ULifeline: ulifeline.org

National Helpline - Mental Health

This is a warmline that that can be called 24/7 365 days a year. It is free. This line aims to connect you with local resources to help with mental health or substance abuse.

Call: 1-800-662-HELP (4357)

OSU Psychological Services Center

Staffed by graduate students, free for adults in central Ohio.

Phone: (614) 292-2345
Website: psychology.osu.edu/psc
Email: psc@psy.ohio-state.edu

Crisis TEXT Line

This free line will not show up on your phone bill, so this is confidential. "A crisis to you is a crisis to us."

Text: "HOME" to 741-741
Website: crisistextline.org

Let's Talk OSU

FREE and CONFIDENTIAL drop-in informal mental health consultations. 15-20 minute consultation with a trained CCS counselor. Thursdays in the Union (Multicultural Center) 6-8 pm.

Website: ccs.osu.edu/about-us-and-our-services/lets-talk

Wellness Coaching - OSU Wellness Center

Wellness coaches take a positive approach to personal development, focusing on your strengths and using the Nine Dimensions of Wellness model as a framework for generating goals that are meaningful for you.

Website: swc.osu.edu/wellness-coaching

Self Care Tips

134 things to add to your self care routine.

Website:
goodtherapy.org/blog/134-activities-to-add-to-your-self-care-plan/

Feeling....

Like you want to meet new people? Try joining a student organization. Search by your interests and contact the club via email for how to join:
activities.osu.edu/involvement/student_organizations/find_a_student_org

Burnt out? Take a break. Take a nap. Read a book. Call a friend. Do something on the self care tips list. Eat a dessert. Watch your favorite TV show. Go for a walk. Do something for yourself.

Hangxiety? Consider cutting back on alcohol if you feel worse every time you go out drinking, and ordering a "mocktail" next time you go out.

Like you need to relieve stress? Try an exercise class at the RPAC.
recsports.osu.edu/fitness-wellness/group-fitness/fitness-schedule-classes