COVID Information Commons (CIC) Research Lightning Talk

Transcript of a Presentation by Jennifer Cromley (University of Illinois at Urbana-Champaign), October 4, 2022

Title: *Understanding graduate engineering student well-being for prediction of retention*

Jennifer Cromley CIC Database Profile

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Youtube Recording with Slides

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Transcript

Jennifer Cromley:

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Super. So I am presenting on some COVID-19 data that we collected as part of a larger project that happened to be going on. And so the title doesn't have COVID-19 in it, but that's what I'm presenting on. And my Co-PI Karen Jensen from University of Michigan, is in the call and Joe Mirabelli, our colleague, is also in the call. And we have the NSF information down below.

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So we received an RFE grant to study the stressors that were affecting engineering Ph.D. students, and in year 1 - 2021 to 2022, we planned to conduct interviews to identify those graduate student stressors. And just to give a little context, COVID-19, of course, was happening, we were about seven months post-vaccines being rolled out, and the omicron wave spiked in January 2022. And just to give you a little university context, masking was required in classrooms, gymnasiums, performances, and health care, but not in any other spaces, including labs. And proof of either vaccination or off campus and PCR testing was required to enter buildings. Both of those are provided at no cost to everybody at the university. Almost all staff and faculty had reduced their on-campus hours. Many buildings and businesses in town were still fully or partially closed.

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So there's a small literature on early COVID-19 effects on graduate students and those are in 2021. They're published in 2021-22. They're mostly using questionnaires. And interestingly, we found in our later COVID research that fear of getting COVID-19, fear of spreading COVID 19, financial loss, job loss, research delays, productivity delays, social isolation, and travel obstacles were all there in that small literature, as was leaning on family for coping.

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So that might seem a little disappointing. Like, do we have nothing new to say? Well, we conducted 212 interviews with 55 Ph.D. students from 12 engineering departments just at one U.S. university. They follow some of the typical demographics, except [that they are] pretty high undergraduate first generation [students]. We consented them and did initial one hour interviews in October 2021. And then we did follow ups in December, February, and April. Those were about 10 minutes each, everything was conducted over Zoom. We didn't record the faces. And the interviewer had, at one time, been a Ph.D. student in engineering, and was no longer at the time of that - of doing the interviews. The major sections of the interview protocol were around housing and food, paid work, advisors / lab, we couldn't really separate those taking courses, stress effects, and coping strategies.

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We developed a very large coding scheme and there were 29 COVID-specific codes. There is a hybrid coding where some of the codes are driven by what the participants say, and some come from the literature.

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And so I want to spend most of my time on the results. So COVID-19 affected work, affected their lives as students, and affected their personal lives. But you'll see the underlined things are mostly personal. So the most prominent stressors are related to travel, family, and fear of oneself or others getting sick. Next most prominent were the fear of family - family and friends who actually got COVID-19 - some general effects of COVID-19. [Then,] slowing of research activity and decreased exercise. And then in the next category were decreased social interactions, stresses of online classes, financial strain, effects on life plans, getting sick oneself, effects on advising, and getting to know the community. So you can see from the underlying parts that the majority are personal effects on personal life. Other stressors that you might be familiar with from the literature were 1% or less of what we coded.

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So that was a little - some of the the lack of the missingness of some of those were a little surprising to me. But there was this kind of family visa lab workload quarantine air travel nexus, which didn't just affect international students, it also affected domestic students. And so these doctoral students wanted to visit their family and sometimes felt stress from their families saying: visit visit visit. But they were hindered by visa rules, advisors saying, no, you can't take, you know, a long time off and also, I don't

want you to get stuck in quarantine, in your home country, there are requirements to have a negative test before being able to come back. And then there was also quite a substantial number of family and friends who got COVID. And that included roommates, lab mates, and friends from lab. So the lack of masking in the labs, I think, added to stress. In only two cases, family members died from COVID-19. But much more often, they spoke about worry about their family and friends who got COVID, not having long term health problems or financial effects like losing jobs.

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People spoke of the progress of their experiments and presentations being affected. In some cases, that was supply chain issues. In some cases, that was rotating people through labs on a time schedule to try to have fewer people in the labs. There were also, of course, effects on social interactions, both with lab mates and in personal life, due to both stay at home orders and university policies. And then, this changing swirling landscape that I think we all remember, of federal rules, county public health rules, university rules, were experienced as a stress. We don't think that those were poorly crafted guidelines and precautions, but the fact that they kept changing was experienced as a stress.

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So what are the big implications? I think that we show a different prevalence of stressors in this later stage research. We think that a number of our findings - and looking back at other people's findings as well - are due to the specific population, the context, and the timing of the study. And I think a prominent example is if this research had been done on the West Coast, housing costs would have been a huge stressor. But we have a low cost of living where we did this research, and so it just didn't come up.

The peak of disease concerns coincides with the Omicron disease peak.

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And that's just the big picture of what we got. We're happy to provide a longer paper if anybody is interested.