



Instructor Perceptions of Student Incivility in the Online Undergraduate Science Classroom

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Student incivility, defined as a student behavior perceived to be disrespectful or disruptive to the overall learning environment in a course, can negatively affect the science learning environment and instructors. The transition to online science courses during the COVID-19 pandemic created a unique environment for student incivility to take place in undergraduate courses. There are few studies that examine student incivility in online synchronous courses, and we know of no studies that have investigated student incivility during the COVID-19 pandemic. In this study, we surveyed 283 instructors across U.S. institutions who taught undergraduate science courses with synchronous online components. We probed their experiences with student incivility during the fall 2020 term. Over half of instructors surveyed reported experiencing student incivility, with women being more likely than men to report student incivility. Compared with white instructors, people of color were more likely to perceive an increase in student incivility in fall 2020 relative to previous in-person terms. This work indicates that student incivility is perceived in the online synchronous learning environment and that the negative impacts of perceived student incivility during COVID-19 online instruction were not distributed equally among instructors, disproportionately burdening women and people of color.

KEYWORDS student incivility, online learning, COVID-19, Zoom, gender, instructor, race, remote instruction, science, uncivil

INTRODUCTION

In spring 2020, the COVID-19 pandemic disrupted higher education (1, 2). Colleges generally mandated that instructors rapidly transition their in-person spring term courses to emergency remote instruction (3, 4). For most institutions, online delivery of content continued throughout the spring, summer, and fall terms in 2020; nearly 75% of institutions offered either hybrid or fully online courses in the fall 2020 term (5). The literature examining teaching online during the pandemic has primarily focused on the potential detrimental impact to undergraduates (6), while less is known about how online teaching affected instructors.

We hypothesize that the pandemic may have impacted instructor perceptions of student incivility, defined as any student behavior perceived by the instructor or other students

to be disrespectful and/or disruptive to student learning (7, 8). There are many underlying factors that can affect student incivility, including the students-as-consumers mentality, as well as students experiencing physical or mental illness, fatigue, stress, narcissism, and emotional challenges (9, 10). During fall 2020, in the middle of the COVID-19 pandemic, students were pressed for time, dealing with unemployment, and worried about their health and safety (11). Studies have shown that external factors such as home life, family, and non-academic responsibilities can cause students to behave in uncivil ways in class (12). In addition, instructors were also personally affected by the pandemic and may have been unusually distant from students during this time. The increased psychological distance, owing to the stress caused by having to learn how to teach in a new modality and the ongoing challenges of the pandemic, could have primed students to become more uncivil (13).

The online environment likely further exacerbated both the frequency and the severity of student incivility. Online courses can make students feel more anonymous than traditional courses, which may lead students to behave uncivilly toward instructors and peers whom they may never see in person (14). Communicating over the Internet is often informal, which can result in students feeling that they can be informal in their exchanges with instructors and other students (15). Instructors have also noted that creating a sense of community in

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their online courses can be challenging (16); without community, students might feel disconnected from their classmates and the instructor, which could result in uncivil student behavior (14). In contrast, high instructor immediacy, defined as the psychological closeness between an instructor and students, decreases the likelihood of incivility (8). Further, instructors who are clear, organized, and more student-centered in their instruction (e.g., using active learning and classroom discussions) are also less likely to experience incivility compared to their peers without these traits (17).

However, the pandemic created a stressful teaching environment for instructors, many of whom had to create new materials for teaching online in a short amount of time. That, coupled with increased levels of stress related to the pandemic in general, may have led to instructors appearing to be more aloof or indifferent to student needs (8). In addition, students may be more likely to act uncivilly in the presence of instructors who identify within underrepresented groups; in the context of in-person college courses, international instructors, people of color and women report experiencing more hostile student behaviors than instructors who were not international, white instructors, and men, respectively (17). Further, novice instructors report encountering student incivility more often compared to more experienced instructors (8). Considering the prior literature, we hypothesize that instructors who were already disproportionately impacted by the pandemic, including women (18), people of color (19), and early career faculty (20), may perceive greater student incivility.

We conducted a study to explore instructor perceptions of student incivility in online synchronous science courses in fall 2020 during the COVID-19 pandemic. While student incivility can occur in any undergraduate course, regardless of discipline, we focused our attention on science courses because science courses are often larger in size and instructors have historically been described as less approachable (21, 22), two factors which are likely to exacerbate student incivility based on prior research (8, 17, 23). Our research questions for this study were:

1. To what extent did undergraduate science instructors perceive experiencing uncivil student behavior in online synchronous science courses in fall 2020?
2. What personal characteristics, if any, do undergraduate science instructors think influence the extent to which they may experience uncivil student behavior, and what personal characteristics actually predict whether instructors reported experiencing uncivil student behavior?

METHODS

This study was conducted in accordance with Arizona State University's IRB Protocol # 00013003.

We surveyed a national sample of science instructors who taught undergraduate courses with an online component that met live/synchronously.

Survey development

The survey was created by modifying previously developed surveys (24, 25) to determine what types of potentially uncivil behaviors instructors experienced in fall 2020 and to collect instructor demographic information. We chose to use these surveys because they were previously successfully implemented in studies on student incivility, and they included many potentially uncivil behaviors we would expect to be reported in online synchronous courses. To establish cognitive validity of our survey items, we conducted think-aloud interviews with three faculty members who had taught synchronous online courses in fall 2020 (26). A copy of the final survey can be found in the supplemental materials.

Survey recruitment and administration

We sent a survey to 7,594 science faculty, including adjunct or visiting faculty, instructors, assistant professors, associate professors, and professors. We recruited from community colleges, primarily undergraduate institutions, master's-granting institutions, and research-intensive institutions in the United States. To keep the approximate percentage of faculty from each type of institution-type the same in an effort to limit sampling bias, we recruited from more smaller institution types (e.g., community colleges) than larger institution types (e.g., research-intensive institutions). In total we recruited from 126 community colleges, 82 primarily undergraduate institutions, 61 master's-granting institutions, and 41 research-intensive institutions. We sent recruitment emails out to randomly chosen faculty from each type of institution across science disciplines of biology, chemistry, physics, and geology. The survey was distributed using the Qualtrics online platform in December of 2020 and data collection remained open for 4 weeks.

Quantitative analysis of survey responses

On the survey, we asked instructors to think about the online undergraduate science course with the largest enrollment that they taught during fall 2020 with a live/synchronous component. We chose to have instructors consider the largest class they taught to minimize variability in class size among instructors and because uncivil student behavior is most likely to emerge in larger courses (17, 23). Instructors were asked to consider this specific course throughout the survey. We also defined student incivility for instructors as disruptive or disrespectful student behavior.

Research question 1 analyses: reported uncivil behaviors

We collated a list of established uncivil student behaviors from two previously developed surveys on student incivility (24, 25). Some additional potentially uncivil behaviors were added to the list after the three think-aloud interviews were conducted with instructors teaching online (see supplemental

materials). On the survey, we presented this list to instructors and asked them to select all behaviors that they experienced in their fall 2020 science course. We included an “Other, please describe” option at the end of the list. Instructors could also select an option “I did not experience any uncivil student behaviors in this class during fall 2020.”

For each type of uncivil behavior that an instructor selected, they were asked, on average, how offensive they perceived the uncivil behavior to be on a scale of 0 = not offensive, 1 = slightly offensive, 2 = moderately offensive, and 3 = extremely offensive. They were also asked how frequently they experienced each uncivil behavior during the term ranging from once to more than 10 times.

We calculated the percentage of instructors who reported each uncivil behavior; averaged the extent to which instructors who experienced each uncivil behavior perceived it to be offensive, and averaged the number of times that instructors reported experiencing the behaviors. For instructors who reported experiencing a behavior more than 10 times, we reported this as “10.”

Research question 2 analyses: what personal characteristics of instructors increase and decrease the probability that they experience uncivil student behavior?

On the survey, all instructors were given open-ended questions asking, “In your opinion, are there any characteristics or aspects about you personally that *increase* the probability of student incivility?” and, “In your opinion, are there any characteristics or aspects about you personally that *decrease* the probability of student incivility?” Using open-coding methods (27), two authors (A.E.A. and K.M.C.) reviewed all responses to both questions and developed a rubric describing the most common characteristics that emerged from the data. The authors used constant comparison methods by continuously comparing quotes in one code with each other to ensure that no response was different enough to warrant another category (28). Using the final rubrics (included in the supplemental materials), the two authors coded the same 20% of instructor responses to each question (57 responses for each question) and compared their codes. Their interrater reliability for each question was at an acceptable level (increase incivility, $\kappa = 0.96$; decrease incivility, $\kappa = 0.87$) (29). One author (A.E.A.) coded the remaining responses for both questions. In the findings, we present the categories that any instructor could report, such as a personal characteristic, that were reported by at least 5% of all instructors. We also present the categories that were reported for over 5% of a particular demographic group. For example, we report that being a woman was a factor that instructors perceived increased incivility because it was reported by > 5% of women in the study.

We were interested in whether demographics predicted whether instructors reported experiencing student incivility. We selected instructor characteristics to include in the model based on those that emerged from the coding of the open-ended data as described above, available sample size, and literature supporting that the demographic may influence the degree to which

instructors experience incivility (17). We used binary logistic regression to test whether gender (man/woman), race (white/people of color), and age (young/not young) predicted whether an instructor reported experiencing incivility or not. We acknowledge that not all individuals identify as gender binary (man or woman); however, there were too few instructors who identified as a gender other than man or woman to create a third category for analyses (30). Owing to low sample sizes for each group, we grouped instructors who identify as Asian, Black or African American, and Latinx into one group: people of color (POC). Even though Asian/Asian American individuals are not considered a historically underrepresented group in science (31), they have the shared experiences with black and Latinx individuals of not having the privilege of being white in academia (32). Further, there has been an increase in anti-Asian discrimination as a result of the pandemic, which likely increased their feelings of being othered for being non-white (29, 33). No instructors identified as American Indian or Alaska Native, Native Hawaiian, or Pacific Islander. All instructors who identified as a race other than those listed were excluded from the analyses. We chose to group instructors under age 40 in a category (young) and those 40 and above into a category (not young) because we hypothesized that age only mattered with regard to whether someone appeared young. We chose to treat age as binary (young or not young) as opposed to continuous, because we had no reason to believe that instructors experienced less incivility as their age increased after they no longer appear young. While there are variations in one’s appearance with age, 40 years old has been a cut-off used in prior studies (34). Instructors who are under 40 would also be considered Millennials and Generation Z, both of which are distinct from earlier generations in their early exposure to technology, which likely correlates with greater comfort in an online setting (35, 36). While the focus of this work is on instructor characteristics, we also chose to include class size in the original model because of prior literature suggesting that class size can be a predictor of student incivility (17, 23). We grouped instructors by the size of the class they considered when answering survey questions: 75 students or fewer (small), 76 to 150 students (medium), and more than 150 students (large) (37). For all models, we checked for multicollinearity among the predictors by assessing the variance inflation factor (VIF) values using the `car` package in R (38), which indicated no issues with multicollinearity for any of our models. We confirmed there were no extreme outliers using the `influencePlot` function in the `car` package in R (30). We assessed model fit using Akaike’s information criterion (AIC). The AICs of the logistic regression with and without class size were within two, indicating equivalent fit (31), so we include the results from a model including only instructor demographics and not class size in the manuscript because it was the more parsimonious model.

On the survey, instructors who experienced incivility in the online version of the course that they taught in fall 2020 and who had taught that course previously in person answered a yes/no question about whether they perceived an *increase* in student incivility during the synchronous online version of the course that they taught in fall 2020. Using binary logistic

regression, we examined whether instructor gender, race/ethnicity, age, or class size predicted an increase in incivility. The AIC of the model which did not include class size was smaller than the model which included class size as a predictor, indicating that it had a better fit (31, 32), so we include the result of the model without class size in the manuscript. The output of the models that include class size is included in the supplemental materials.

Reporting results as relative risk

We describe some of our findings using language such as “women were 1.9 times more likely than men to experience uncivil behavior.” The number, in this case 1.9, is the relative risk (RR), which we calculated based on the odds ratio (OR) from the logistic regression model using the formula $RR = \frac{OR}{(1 - P_0) + (P_0 * OR)}$ (33). The odds ratio is the natural exponential of the estimated coefficient for the explanatory variable, in this case “women” versus “men,” in the logistic regression model to predict whether an instructor is more likely to report experiencing uncivil behavior. The odds ratio is a standardized effect size statistic in logistic regression (34, 35), but relative risk is generally considered to be easier to interpret (36).

RESULTS

Instructor demographics

A total of 283 instructors participated in the survey and their demographics are summarized in Table 1.

Finding 1. Instructors thought that being a woman, young, and a person of color increased their chances of experiencing student incivility while being a man, older, and white decreased their chances.

When asked about general characteristics that may increase student incivility, instructors most commonly felt as though being young or early in their career, being a woman, being a person of color, and having an easy-going personality increased their chances of experiencing student incivility (Table 2). Specifically, 37.7% of respondents under 40 reported that looking young or being pre-tenure increased student incivility. Nearly a third of women (32.9%) thought that their gender increased instances of student incivility and 20.5% of people of color thought that their race/ethnicity contributed to student incivility. Additionally, 13.3% of instructors who identify as a member of the LGBTQ+ community reported that they thought this identity increased their chances of experiencing incivility. Finally, out of all survey participants, 5.7% reported that being easy-going, relaxed, or flexible increased the chances that students would be uncivil.

In contrast, 20.3% of men felt that their gender identity decreased student incivility and 11.3% of white individuals felt that their race lessened student incivility (Table 3). Of the instructors that were 40 or older, 17.7% of them reported

TABLE 1
Demographics of instructor participants

Instructor demographic	% (n) (N = 283)
Gender	
Man	45.2 (128)
Woman	52.7 (149)
Nonbinary or other	1.1 (3)
Declined to state	1.1 (3)
Race/ethnicity	
American Indian or Alaska Native	0.0 (0)
Asian	4.9 (14)
Black or African American	4.2 (12)
Latinx	3.5 (10)
Native Hawaiian	0.0 (0)
Pacific Islander	0.0 (0)
White	81.3 (230)
Other	3.9 (11)
Declined to state	2.1 (6)
Age	
<30	0.7 (2)
30–39	18.0 (51)
40–49	32.5 (92)
50–59	27.9 (79)
60–69	13.8 (39)
≥70	3.5 (10)
Declined to state	3.5 (10)
LGBTQ+ status	
LGBTQ+	5.3 (15)
Non-LGBTQ+	91.9 (260)
Declined to state	2.8 (8)
Position ^a	
Adjunct professor	3.2 (9)
Assistant professor	20.1 (57)
Associate professor	30.4 (86)
Professor	34.6 (98)
Instructor	9.9 (28)
Other	1.8 (5)
Declined to state	0.0 (0)
Class size	
Small (≤75)	43.1 (122)
Medium (76–150)	42.8 (121)
Large (>150)	14.1 (40)
Subject taught ^b	
Biology	44.2 (125)
Chemistry	24.0 (68)
Geoscience	12.0 (34)
Physics	14.5 (41)
Other	5.3 (15)
Declined to state	0.0 (0)

^aInstructors who identified their position as “Other” were primarily lecturers.

^bOther subjects tended to not distinctly fit into one of the provided science disciplines and included subjects such as oceanography, astronomy, and environmental science.

TABLE 2
Instructor-reported personal characteristics that they felt increased their chances of experiencing uncivil student behavior

Characteristic	Description	% ^a	Example quotes
Young or early career	Instructor reported that being young, looking young, being pre-tenure, or not having much teaching experience increased their chance of experiencing uncivil behavior.	37.7	"I'm relatively young (. . .) so sometimes I feel like my students take me a bit less seriously." "As a young assistant professor, (. . .) I believe that my identity played at least some role in how students [treated me]."
Woman	Instructor reported that identifying as a woman increased their chance of experiencing uncivil behavior.	32.9	"I am female and several of my female colleagues have experienced incivility issues while my male colleagues have not reported such incidents." "As a female faculty member, it's common to have students challenge my authority."
Person of color	Instructor reported that identifying as Black or African American, Asian, Latina/o, a person of color, or a minority increased their chance of experiencing uncivil behavior.	20.5	"I am [a] Latina (. . .) scientist teaching a biology course. (. . .) It is hard to gain the respect of students." "I am a black (. . .) professor. I get students questioning my knowledge, professionalism, and competence in every class."
LGBTQ+	Instructor reported that identifying as a member of the LGBTQ+ community increased their chance of experiencing uncivil behavior.	13.3	"I am openly gay, and some students have [. . .] made snide remarks." "I'm openly trans [which could affect student incivility]."
Easy-going or flexible	Instructor reported that being easy-going, laid-back, relaxed, or flexible increased their chance of experiencing uncivil behavior.	5.7	"I am relatively easy-going about class matters in general, which I feel can lead to students thinking they can take advantage of that." "I have a 'relaxed' personality that I believe may promote some students to [be uncivil]."

^aWe calculated the percent for each category by dividing by the number of instructors who were most likely to have reported out each category. Women was divided by the number of women in the survey ($n = 149$), young/early career faculty was divided by instructors under 40 ($n = 53$), person of color was divided by the number of participants of color ($n = 39$), LGBTQ+ was divided by the number of LGBTQ+ participants ($n = 15$), and an easy-going personality could have been reported by anyone, so it was divided by the number of all participants ($n = 283$).

that their age or seniority teaching decreased the incidence of student incivility. Finally, out of all survey participants, a number of factors emerged that instructors felt decreased student incivility: 17.3% reported being caring or helpful, 11.0% indicated that they were strict and not tolerant of incivility, 9.2% stated being friendly and approachable, 8.8% mentioned being respectful of students, 8.8% reported being clear with expectations, 6.0% reported being flexible or laid-back, and 5.7% talked about building relationships with students.

Finding 2. Over half of science instructors reported experiencing uncivil student behavior in their online science course and this was more likely to be reported by women. People of color were more likely to report an increase of incivility in the online environment.

Of the 283 online science instructors who were surveyed, 55.5% (157 instructors) reported experiencing uncivil student behavior in the course they were teaching synchronously online during fall 2020 (Fig. 1). Women were 1.3 times more likely to report experiencing uncivil student behavior compared to men.

However, neither instructor race/ethnicity nor age significantly predicted whether an instructor reported experiencing uncivil behavior (see supplemental materials for regression output).

Of the 157 instructors who experienced incivility in their synchronous online science course, 93.0% (146 instructors) had taught the course previously in an in-person format. Of those instructors, 40.4% (59 instructors) reported experiencing increased incivility during the synchronous online course in fall 2020 compared to teaching the same course in person (Fig. 1). People of color were 1.8 times more likely to report experiencing an increase in uncivil behavior in their online synchronous science course in fall 2020 compared with white instructors. Instructor gender and age did not significantly predict whether an instructor reported an increase in incivility (see supplemental materials).

Finding 3. The most commonly reported uncivil behaviors experienced by instructors were not perceived to be very offensive.

Of the 157 instructors who reported experiencing uncivil behavior, the most commonly reported uncivil student behaviors

TABLE 3
Instructor-reported personal characteristics that they felt decreased their chances of experiencing uncivil student behavior

Characteristic	Description	% ^a	Example quotes
Man	Instructor reported that identifying as a man decreased their chance of experiencing uncivil behavior.	20.3	<p>"I am (. . .) male, which probably helps me project my authority and engender respectful behavior."</p> <p>"The fact that I'm (. . .) male and as such likely granted an unearned level of authority and competence that other (. . .) nonmale faculty members are often not given."</p>
Older or experienced	Instructor reported that being old, not young, or having significant teaching experience decreased their chance of experiencing uncivil behavior.	17.7	<p>"I am an older [instructor]. I look like students think a professor is supposed to look. I think they perceive me as an authority figure."</p> <p>"I would hope that after 20 yrs in the classroom I project enough confidence (. . .) that I don't appear vulnerable or easily rattled."</p>
Caring or helpful	Instructor reported that being caring, helpful, kind, or understanding decreased their chance of experiencing uncivil behavior.	17.3	<p>"I'm caring, kind, and welcome student input. It helps students feel valued and heard."</p> <p>"I am kind and accepting of constructive student feedback. Students know that they can voice concerns with me, so they aren't generally frustrated by how the course is run."</p>
White	Instructor reported that identifying as white decreased their chance of experiencing uncivil behavior.	11.3	<p>"I am white, which certainly gives me more intrinsic, unearned authority."</p> <p>"I'm white. My colleagues who are people of color have much worse experiences than I do."</p>
Strict or not tolerant of incivility	Instructor reported that being strict or intolerant of uncivil behavior decreased their chance of experiencing uncivil behavior.	11.0	<p>"I'm firm with students. They know they won't get away with anything."</p> <p>"I do think of myself as a 'no nonsense' instructor and typically speak my mind/stop any attempts at incivility early."</p>
Friendly or approachable	Instructor reported that being friendly, approachable, or relatable decreased their chance of experiencing uncivil behavior.	9.2	<p>"I tend to relate well with students in general and I'm candid with them. I think it may have helped [decrease incivility]."</p> <p>"I am very approachable and down to earth."</p>
Respectful of students	Instructor reported that being respectful of students, listening to them, or not talking down to them decreased their chance of experiencing uncivil behavior.	8.8	<p>"I try to model respectful behavior and emphasize that our class community will only function well [if] everyone is respectful."</p> <p>"I respect all of my students and make it a point to listen to them."</p>
Clear expectations	Instructor described that having clear expectations that are known to students decreased their chance of experiencing uncivil behavior.	8.8	<p>"I start the semester with clear expectations and provide transparency and predictability to my curriculum and schedule. Students know what to expect."</p> <p>"I have clear rules and boundaries and expectations. I outline expectations for their behavior, in particular on Zoom clearly in my syllabus, during the first class."</p>
Easy-going or flexible	Instructor reported that being easy-going, laid-back, relaxed, or flexible decreased their chance of experiencing uncivil behavior.	6.0	<p>"Being easy-going (. . .) helps students communicate a bit more freely, which at least in some cases enables them to bring up issues more openly without causing disruptions."</p> <p>"I am very easy-going and a bit unstructured."</p>

(Continued on next page)

TABLE 3 (Continued)

Characteristic	Description	% ^a	Example quotes
			(. . .) This relaxes some students who don't do well with highly structured courses."
Relationship with students	Instructor described that making an effort to build relationships or good rapport with students decreased their chance of experiencing uncivil behavior.	5.7	"I definitely get to know each student individually and (. . .) that clear mutual acknowledgment and respect of each other's humanity helped reduce potential student incivility." "I intentionally engaged with students on a personal level to express and build empathy."

^aWe calculated the percent for each category by dividing by the number of instructors who were most likely to have reported out each category. Any instructor could have reported a personality characteristic such as caring/helpful, strict/intolerant, friendly, respectful, having clear expectations, being flexible, or having a relationship with students. As such, the number of instructors who reported these categories was divided by all participants (*n* = 283). Older/experienced faculty was divided by instructors 40 and over (*n* = 220), white was divided by all white participants (*n* = 230), and man was divided by all participants who identified as men (*n* = 128).

were requesting to change a grade (38.9%), using cell phones during class (38.9%), and sleeping during class (31.2%) (Table 4). However, instructors did not consider these behaviors to be very offensive; on average they rated requesting to change a grade as slightly offensive and using cell phones and sleeping during class as moderately offensive. The uncivil behavior that occurred most often in class was students talking to other students at inappropriate times (on average 7.5 times during the term), using cell phones during class (an average of 7.3 times during the term), and excessive communication with the instructor outside of class (6.4 times during the term).

Compared with white instructors, people of color were 2.7 times more likely to report experiencing an inappropriate or rude email sent to the instructor, 4.2 times more likely to report experiencing students dressing inappropriately, 3.6 times more likely to report experiencing groans, sighs or eyerolls to convey disdain, and 4.0 times more likely to report experiencing sarcastic remarks. Compared with women, men were 4.2 times more likely to report experiencing students dressing inappropriately and

3.3 times more likely to experience groans, sighs, or eyerolls to convey disdain.

DISCUSSION

We predicted that student incivility would increase in the format of synchronous online science courses compared with in-person teaching, but we were surprised that most instructors did not perceive this increase in incivility. Although only 40% of instructors reported an increase in student incivility, we did find that people of color were 1.8 times more likely to report an increase in student incivility during fall 2020. There are several reasons why people of color may have reported greater levels of student incivility during this time frame. First, we know that women of color typically receive more critical feedback from students in online courses than their white, male counterparts and carry additional emotional burdens from negative in-person experiences when trying to design their online courses (37).

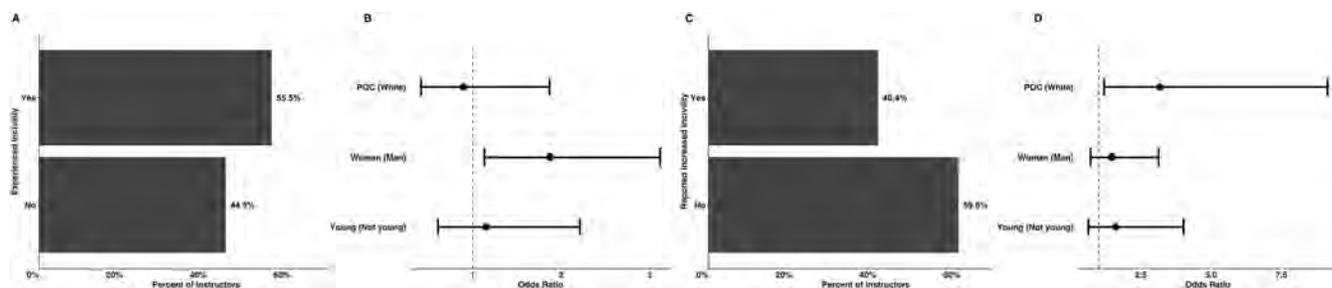


FIG 1. Instructor experiences with incivility by demographic group. (A) Percent of all instructors who reported experiencing incivility in their online science courses. (B) Demographic differences in who reported experiencing incivility. The vertical dashed line at $x = 1$ indicates that the group of interest and reference group (in parentheses) had equal odds of experiencing incivility, points to the right of the line indicate the group of interest had greater odds of experiencing incivility compared with the reference group, and error bars which do not cross the dashed line reflect statistical significance. (C) Percent of instructors who reported an increase in incivility in their online science courses compared with their in-person courses. (D) Demographic differences in who reported experiencing increased incivility. Error bars which do not cross the vertical dashed line at $x = 1$ indicate statistical significance and points to the right of the line indicate that the group of interest had higher odds of reported increased incivility than the reference group.

TABLE 4

The percent of instructors who reported specific uncivil behaviors, the extent to which instructors perceived each uncivil behavior to be offensive, and the frequency of which instructors experienced each behavior over the term^a

Type of incivility	% of instructors who experienced incivility (n = 157)	Instructors more likely to report experiencing incivility type ^b	Offensive score ^c mean ± SD (range 0–3)	Frequency during term ^d mean ± SD (1–10+)
Requesting to change grade	38.9	None	Slightly offensive 1.3 ± 1.0	4.8 ± 2.9
Using cell phones during class	38.9	None	Moderately offensive 1.5 ± 0.8	7.3 ± 2.9
Sleeping during class	31.2	None	Moderately offensive 1.5 ± 0.9	4.6 ± 3.0
Excessively communicating with instructor outside of class	22.3	None	Slightly offensive 1.2 ± 1.0	6.4 ± 3.1
Sending inappropriate or rude emails to instructor	16.6	People of color	Moderately offensive 2.1 ± 0.9	4.9 ± 3.0
Dressing inappropriately	14.0	Men and People of color	Moderately offensive 1.7 ± 0.9	5.5 ± 3.7
Groans, sighs, or eyerolls to convey disdain	12.1	Men and People of color	Moderately offensive 1.5 ± 0.9	5.9 ± 2.4
Making sarcastic remarks	12.1	People of color	Moderately offensive 1.5 ± 1.0	4.2 ± 2.6
Dominating class discussion	10.8	None	Slightly offensive 0.9 ± 0.6	5.5 ± 3.1
Talking to other students at inappropriate times	9.6	NA	Moderately offensive 1.7 ± 0.8	7.5 ± 2.8
Challenging the instructor's knowledge	8.9	NA	Moderately offensive 1.8 ± 0.9	3.6 ± 1.3
Verbally attacking the instructor	8.3	NA	Extremely offensive 2.5 ± 0.7	5.0 ± 3.0
Interrupting the instructor	8.3	NA	Slightly offensive 1.2 ± 0.7	5.2 ± 2.6
Interrupting other students	7.0	NA	Moderately offensive 1.7 ± 0.8	4.7 ± 2.4
Using vulgar language	6.4	NA	Moderately offensive 2.1 ± 1.0	4.4 ± 3.3
Attacking other students verbally	3.8	NA	Moderately offensive 2.2 ± 1.2	2.2 ± 0.8
Making offensive remarks	3.2	NA	Extremely offensive 2.6 ± 0.5	3.2 ± 1.6
Nudity	1.3	NA	Extremely offensive 3.0 ± 0.0	1.5 ± 0.7
Threatening instructor	0.6	NA	Extremely offensive 3.0 ± 0.0	10 ± 0.0 ^e
Threatening students	0.0	NA	NA	NA
Sexual acts	0.0	NA	NA	NA
Unwanted sexual attention	0.0	NA	NA	NA
Other	37.6	NA	NA	NA

^aResults for each regression that assessed whether instructor characteristics predicted whether an instructor would report a particular behavior are reported in the supplemental materials.

^bOwing to insufficient sample size, we did not conduct binary logistic regressions for uncivil behaviors reported by less than 10% of instructors and indicated this in the results column with “NA.”

^cInstructors rated uncivil behaviors they experienced as 0 = not offensive, 1 = slightly offensive, 2 = moderately offensive, and 3 = extremely offensive.

^dInstructors also reported the number of times they experienced a particular uncivil behavior during the term from “one time (1)” to “at least 10 times (10).”

^eThreatening the instructor was reported by one instructor, who reported that uncivil behavior occurring 10 times throughout the term.

Additionally, the amount of incivility perceived by people of color may have been exacerbated in response to the resurgence of the Black Lives Matter movement in 2020; this could either be because there was an increase in student incivility toward people of color as a backlash to the Black

Lives Matter movement or because people of color were more aware of potential incivilities in the classroom.

Although women did not report greater incivility online compared to the last time they taught in person, they were more likely to report more student incivility in general. The

pandemic has exacerbated the challenges and disparities already faced by women in academia, leading some to decide to leave STEM altogether and pursue alternate careers (38). The disproportionate burdens women experience as a result of incivility may have further contributed to these decisions.

Of note, being easy-going and flexible emerged as a factor that could both increase student incivility and decrease student incivility. While our study did not specifically address why this might be the case, we predict that this has to do with the intersectionality of identities and the influences of these identities on instructor authority and approachability in the classroom. It has been established that it is harder for people of color, particularly women of color, to establish authority in the classroom (39); people of color have reported incidents where they are assumed to be students, teaching assistants, or even custodial staff. Further, people of color have been shown to perceive that students are more critical of their teaching, challenge their authority more, and have less respect for them compared to the experiences of white instructors (40). Due to differing baseline assumptions of authority and competence for different instructors based on a combination of identities, increased flexibility may be useful for instructors who already have authority but not beneficial for instructors who struggle to maintain authority. While we were unable to examine whether instructor demographics influenced this factor, owing to the open-ended nature of the question, this would be interesting to explore in future studies.

Limitations

This study was limited to instructor perceptions of student incivility and the study design did not allow us to document specific instances of actual student incivility to confirm instructor perceptions; self-reported perceptions are not always an accurate indication of what happens, although we would argue that instructor perceptions of incivility are important as far as how they influence instructors. Further, we acknowledge that any research on student incivility is potentially biased by what the culture of the academy perceives to be uncivil. Academia is primarily a culture built by white, privileged men, so these may be biased assumptions of what is considered uncivil. For example, white culture tends to put emphasis on arriving on time, using language that is considered professional, and being respectful of individuals in positions of authority (41). This means that students whose cultures prioritize time in different ways, use different language or modes of communication, or challenge authority may be perceived to be uncivil unless they learn how to code-switch to fit into the cultural expectations of academia (42). There is also research that indicates that instructors perceive and respond differently to student incivility depending on the race/ethnicity of the student (43). Thus, this study only reports instructor perceptions of incivility, which may be biased based on their assumptions of what constitutes appropriate behavior and communication and may be dependent on other factors associated with students. Further, it could be possible that some student incivility is sparked by what students may

consider to be instructor incivility; this study did not explore student perceptions of instructor incivility and how that may impact student incivility.

We included any instructor who offered some kind of synchronous/live online teaching in the fall 2020 semester. However, there was great variation in the extent to which instructors offered synchronous sessions, ranging from a single hour each week to over 5 hours each week. Some of the instructors only taught a subset of the course (e.g., half of the course), which would limit the number of interactions (both synchronous and asynchronous) they had with students. Some of the courses were 7.5-week semesters, some were 10-week quarters, and some were 14- to 15-week semesters. Further, some instructors may have required attendance or for student cameras to be turned on, which could have affected student incivility. All of this variation, in addition to recall bias, influences each instructor's reported frequency of student incivility, but there was too much variation to be able to account for it in our models, so this variation is a limitation of our study design.

We did not have the sample size to probe interactions among gender, race/ethnicity, and age, but we encourage other studies to examine this intersectionality either with larger sample sizes or using a qualitative approach (44). We acknowledge that the compounding identity of being a young woman of color is distinct from just one's experience being young, identifying as a woman, or identifying as a person of color (45, 46) and not being able to speak to this specifically with our data is a limitation.

While we feel as though this work has implications for all online instruction, we encourage caution in interpreting these findings in light of when the data were collected. We specifically sought to explore instructor perceptions of student incivility during the COVID-19 pandemic, which would be influenced by negative impacts of the pandemic on both students and instructors.

CONCLUSIONS

This work highlights that instructors' perceptions of uncivil student behavior while teaching online during the fall 2020 semester were not equivalent. When asked about characteristics that they perceive affect student incivility, instructors perceive that gender, race/ethnicity, age, and personality attributes such as being easy-going versus strict impact student incivility. Indeed, women were more likely to report experiencing student incivility compared with men, and people of color were more likely to experience an increase in student incivility during fall 2020 compared with teaching their course in person.

SUPPLEMENTAL MATERIAL

Supplemental material is available online only.

SUPPLEMENTAL FILE 1, PDF file, 0.2 MB.

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