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Published online: 06 Dec 2022.

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ABSTRACT

The present study investigated how course policies and enforcement strategies designed to curb classroom digital distraction affect undergraduates' perceptions of student-instructor rapport. Data gathered from online surveys completed by undergraduates at four United States universities revealed that student perceptions of rapport can be influenced by digital distraction prevention. Participants endorsed course technology policies that are developed in collaboration between students and instructors and that are targeted at curbing the use of digital devices for social, rather than educational, purposes. Findings indicate that such policies can improve student buy-in and improve student perceptions of rapport. Although participants identified confrontational enforcement strategies (e.g., calling students out, grade reductions, phone confiscation) as most effective for reducing the amount of digital distraction during class when policies are violated, these strategies were also identified as being most harmful to their perceptions of rapport with instructors. Despite regularly using devices for off-task purposes during class, most participants are not worried about getting caught because they do not believe their instructors are particularly concerned about the amount of ongoing digital distraction in the classroom. Recommendations for addressing student digital distraction while protecting the quality of student-instructor rapport are provided through the lens of self-determination theory.

Undergraduates' use of digital devices (e.g., smartphones, laptops) during class for off-task purposes is commonplace in college classrooms globally (Jamet et al., 2020; Vorderer et al., 2016; Wu et al., 2018)—a phenomenon known as digital distraction (McCoy, 2020). Approximately 70–90% of undergraduates regularly misuse their mobile phones during class (Kornhauser et al., 2016; Parry & le Roux, 2018). Misuse of mobile phones during class occurs about once every 5 minutes for many undergraduates (Kim et al., 2019) and results in students spending about 30% of typical class periods misusing their phones (e.g., texting, scrolling social media, surfing the Internet) (Kim et al., 2019; McCoy,

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2020). Similarly, many laptop users spend about 50% of typical class periods using their computer for off-task purposes (Ragan et al., 2014; Ravizza et al., 2017). These digital distraction habits contribute to a variety of negative outcomes for students, including reduced note-taking (Flanigan & Titsworth, 2020; Kuznekoff & Titsworth, 2013), performance on quizzes based on lecture content (Demirbilek & Talan, 2018; Flanigan & Titsworth, 2020), course grades (Bjornsen & Archer, 2015; Kates et al., 2018), and cumulative GPA (Wu et al., 2018).

Although many strategies have been investigated to address this phenomenon (Redner et al., 2020; Whittington, 2019), many college instructors are worried that policing classroom digital distraction will alienate students (Flanigan et al., 2021; Flanigan & Babchuk, 2022). However, no known research has explored whether this instructor-held concern is justified. The purpose of this study is to address this literature gap by examining students' reports of how course technology policies and enforcement strategies intended to curb digital distraction affect perceptions of rapport with instructors. Addressing this knowledge gap will allow the present study to inform how college instructors can address student digital distraction while simultaneously protecting the quality of rapport in their classrooms.

Literature review

Policies and enforcement strategies to curb student digital distraction

Perhaps the most common strategy to curb student digital distraction is to include technology-related course policies within the course syllabus. In general, undergraduates endorse the presence of technology policies if those policies are focused on curbing the use of electronics for social rather than educational purposes (Finn & Ledbetter, 2014; Santos et al., 2018; Shrivastava & Shrivastava, 2014). Writing syllabi that delineate between appropriate and inappropriate use of mobile technology in the classroom improves student perceptions of instructor credibility relative to banning mobile technology outright (Cheong et al., 2016; Santos et al., 2018; Stowell et al., 2018), while failing to establish clear technology policies can reduce instructor credibility (Finn & Ledbetter, 2013).

Furthermore, restrictive mobile phone policies appear ineffective in reducing off-task phone usage during lectures (Jones et al., 2020) and can cause students to view their personal freedom as being restricted (Redner et al., 2020). Banning electronics even for educational purposes—like using a laptop to take notes—is positively related to student perceptions of teacher aggression (Finn & Ledbetter, 2014). Moreover, banning mobile phones—but still allowing laptops or tablets—is negatively correlated with student perceptions of teacher aggression (Finn & Ledbetter, 2014). However, syllabus policies that encourage using mobile phones for instructional purposes result in stronger student perceptions of instructor credibility than policies focused on banning mobile phones altogether (Frey & Tatum, 2017). Collaborating with students on mobile technology policies can increase student buy-in (Santos et al., 2018) and potentially alleviate the deleterious effects the policies have on student perceptions of instructor credibility (Finn & Ledbetter, 2014). In addition to having a formal policy written in their course syllabi, some instructors also opt to talk to students about the downsides of student digital distraction during class to help students buy into the policies (Flanigan & Babchuk, 2022).

As technology policy leniency increases, so too do digital distraction frequencies in college classrooms (Stachowski et al., 2020)—an indication that implementation and enforcement of clear policies is necessary for those policies to be effective. Although students tend to endorse more lenient technology policies (i.e., they are less likely to endorse an electronics ban), they also tend to endorse stronger penalties for inappropriate use than instructors (Stachowski et al., 2020). Yet, undergraduates tend to rate technology policy enforcement as occurring less often than they anticipate (Stachowski et al., 2020).

When instructors catch students digitally distracted, and policy enforcement occurs, instructors seem to rely on ineffective strategies. For example, Berry and Westfall's (2015) survey of undergraduates revealed that the enforcement strategies undergraduates most frequently encounter are verbal whole-class warnings, verbal reminders of the syllabus policy, and private verbal reprimands—all of which were identified by these undergraduates as the least effective for reducing digital distraction. These undergraduate participants identified removal from class, grade reduction, phone confiscation, and public verbal reprimands as the most effective enforcement strategies. Findings from Berry and Westfall's research indicate that undergraduates view more confrontational strategies (e.g., removal from class, grade reduction, phone confiscation, public reprimand) as more effective for curbing student digital distraction than less confrontational strategies (e.g., general syllabus policies, verbal whole-class warning). The use of such confrontational enforcement strategies has resulted in lower device use and higher average student quiz scores than in classes without a course technology policy (Redner et al., 2020).

Although stronger sanctions and adopting no-technology policies can reduce off-task device use during class, students also report that such approaches to policing student digital distractions rob them of their personal freedom in the classroom (Redner et al., 2020). Students also view instructors who adopt restrictive policies as being more aggressive than instructors who do not (Finn & Ledbetter, 2014), which would plausibly sour student–instructor interpersonal relationships. These findings suggest that college instructors are in a bind, as perhaps the strategies most effective for decreasing student digital distraction are those strategies that are not well received by the students themselves.

Instructor concerns about addressing student digital distraction

Findings from Berry and Westfall's (2015) research indicated that college instructors tend to rely on ineffective, nonconfrontational strategies when they catch digitally distracted students during class. This reliance on nonconfrontational enforcement strategies stems from instructor weariness about alienating students (Cheong et al., 2016; Langmia & Glass, 2014). Across two separate studies (Flanigan et al., 2021; Flanigan & Babchuk, 2022), college instructors expressed apprehension about restricting device use and using confrontational enforcement strategies out of concern that doing so would hinder student perceptions of rapport with them. For instance, one instructor said, "You want to call them on it and tell them in front of everybody to put their phone away. You just can't. You'll get under their skin and that's tough to repair" (Flanigan & Babchuk, 2022, p. 362). Instead, to protect the sense of rapport in their classrooms when they catch students digitally distracted, instructors relied

on nonconfrontational strategies (e.g., verbal whole-class reminders about policies, private one-to-one conversations, and sending them emails after class). These instructors surmised that tactful, rather than confrontational, reactions to student digital distraction can alleviate the problem without alienating students. However, such a belief does not correspond with student views on the use of nonconfrontational strategies to reduce student digital distraction (Berry & Westfall, 2015).

Being mindful of the quality of rapport an instructor has with their students is important. Rapport is operationalized as the sense of a harmonious, interpersonal connection between two or more people that is characterized by trust, communication, and mutual respect (e.g., Catt et al., 2007). Students' rapport perceptions are positively related to engagement, motivation, and learning (e.g., Demir et al., 2019; Frisby & Martin, 2010; Lammers et al., 2017). By maintaining a healthy level of rapport with their students, instructors can create conditions within their classroom that are helpful for student learning. Unfortunately, relying on nonconfrontational strategies to protect rapport might be ineffective in curbing the frequency of digital distraction in college classrooms (Berry & Westfall, 2015). Enacting the course policies and enforcement strategies that are most effective for curbing student digital distraction might be those same policies and enforcement strategies that hinder student perceptions of rapport with their instructors. Meanwhile, adopting lenient course policies and enforcement strategies seems to do little to curb digital distraction frequency in college classrooms (Stachowski et al., 2020).

Self-determination theory and digital distraction policy enforcement

Instructor concerns about digital distraction policies and enforcement strategies alienating students seem to align with—and be justified by—the assumptions of self-determination theory (SDT) of motivation (Reis et al., 2000; Ryan & Deci, 2000). As discussed by Ryan and Deci (2000), "human beings can be proactive and engaged or, alternatively, passive and alienated, largely as a function of the social conditions in which they develop and function" (p. 68). SDT holds that the social conditions in which learning takes place can either cultivate or undermine three basic student needs: competence, autonomy, and relatedness (Reeve, 2012; Ryan & Deci, 2000). The assumptions of SDT hold that classroom instructors who create learning environments where these three basic needs are met will create the conditions necessary for student motivation, engagement, and learning (Reeve, 2012). The need for competence refers to a learner's need to believe they can deal effectively with their environment and with the learning task. The need for autonomy refers to the need for learners to feel a sense of control regarding the things they do and the direction their lives take. Finally, the need for relatedness refers to the need to feel socially connected to those around them. A central premise of SDT is that, when these three basic needs are nourished, well-being and motivation are enhanced (Deci & Ryan, 2012; Reeve, 2012; Ryan & Deci, 2000). Perceiving the learning environment as threatening to these needs can lead students to disengage from the learning environment (Jang et al., 2016; Niemiec & Ryan, 2009) and view the course instructor less favorably and more controlling (Jang et al., 2016). Taken together, the premises of SDT appear to support the instructor-held belief that digital distraction enforcement in the classroom may inadvertently alienate students and harm student perceptions of them (Flanigan et al., 2021; Flanigan & Babchuk, 2022).

Using SDT as a lens to evaluate classroom technology policies and enforcement strategies designed to reduce student digital distraction reveals how such policies and enforcement strategies might alienate students by causing them to perceive one or more of these basic needs as under threat. For instance, the need for autonomy might be threatened when instructors unilaterally adopt restrictive technology policies, like banning digital devices outright. Many students believe it is their right to decide whether to bring digital devices with them to class (Neiterman & Zaza, 2019; Ober et al., 2020), so instructors who restrict device use in the class may be perceived as violating that right.

Restricting the use of devices students use for educational purposes might also hinder student perceptions of their competence. Many students believe that typing notes on laptops during class makes it easier to take lecture notes (Witherby & Tauber, 2019) and to learn (Houle et al., 2013; Morehead et al., 2019), which leads nearly 50% of them to regularly type their notes during class (Morehead et al., 2019). Banning laptops from class to curb digital distraction might unintentionally make students feel as though a meaningful learning tool has been taken away and cause them to feel less competent in their ability to learn the content or skills being covered.

Finally, some instructor reactions to student digital distractions (e.g., public verbal reprimands, shaming, grade reductions, device confiscation) could be seen by undergraduates as confrontational and erode their sense of relatedness with the instructor. Along these lines, students have identified moments of student–instructor conflict as "relational turning points" that damage the quality of that interpersonal relationship and reduce student motivation and engagement during class (Docan-Morgan & Manusov, 2009). Antagonistic instructor behaviors have been linked to reductions in student perceptions of having their needs for competence and relatedness met in the classroom (Baker & Goodboy, 2018). Instructors who respond more tactfully and show better interpersonal communication competence might better protect students' need for relatedness (Goldman et al., 2017). Instructors whose enforcement strategies are seen as confrontational might be at risk of violating student expectations regarding acceptable instructor behaviors and eroding student perceptions of relatedness and rapport.

The present study

From the lens of SDT (Deci & Ryan, 2012; Ryan & Deci, 2000), it seems likely that college-level instructors have a reasonable concern that policies and enforcement could negatively affect student perceptions of rapport with them (Flanigan et al., 2021; Flanigan & Babchuk, 2015). However, no known research has validated this concern by obtaining the student perspective. The primary goal of the present research was to address this literature gap. In doing so, findings can be used to inform how instructors develop policies and enact enforcement strategies that simultaneously curb student digital distraction while protecting the quality of rapport between students and instructors. The present study will inform how college instructors can simultaneously address student digital distraction while protecting the quality of student–instructor rapport in the classroom. The primary research question guiding the present study was:

> RQ: Do undergraduates identify digital distraction-related policies and enforcement strategies as impactful for their perceptions of rapport with instructors?

Methods

Participants

Participants for this study were 541 undergraduates recruited during the 2021–2022 academic year from four universities in the United States. Universities A and B were large, public, Midwestern universities, while Universities C and D were large, public Southeastern universities. Permission from each university's Institutional Review Board was obtained prior to participant recruitment. Participants from University A were recruited from introductory-level educational psychology courses ($n = 196$; 36% of all participants). Participants from Universities B ($n = 153$; 28%) and C ($n = 165$; 31%) were recruited from introductory- and upper-level communication studies courses. Participants from University D ($n = 21$; 4%) were recruited from introductory- and upper-level education courses. Six participants did not indicate which university they attended. Most participants were White or European American ($n = 443$; 82%) and underclassmen ($n = 371$; 69%). Most participants identified as being either female ($n = 288$; 53%) or male ($n = 228$; 42%), with four additional participants identifying as nonbinary and 21 participants preferring not to disclose their gender. The median age of the participants was 19 years. All participants were incentivized to participate in the present research. Participants from Universities A, B, and C received credit to fulfill a research participant requirement in their respective courses. Participants from University D had the option to enter their names into a raffle to win one of four $50 electronic Amazon gift cards after completing the research survey.

Materials

Online survey

Participants completed a 31-item online survey split into six sections. All survey items were developed for this study. The survey was administered through Qualtrics®. Section 1 contained five items regarding ownership of mobile devices and the use of those devices during class for nonclass purposes. Participants identified all devices owned from a list of selected-response options, reported how often they bring their devices with them to class (i.e., Never, Rarely, Sometimes, Often, Always), self-reported the percentage of typical class periods using their device(s) for off-task purposes (i.e., 0–100% of the time), self-reported the kinds of off-task activities engaged in on their devices, and indicated how likely they think it is they will be caught off-task during class (i.e., Very Unlikely, Unlikely, Likely, Very Likely).

Section 2 contained seven items about student perceptions of the effectiveness of different instructor strategies for reducing off-task device usage during class. All Section 2 items included the same 5-point Likert-type response scale ranging from 1 (Very Ineffective) to 5 (Very Effective). Sample items include, "Having a technology policy in the syllabus" and "Instructor calls out student during class for off-task device use."

Section 3 contained three items about how different technology-related syllabus policies would affect student perceptions of rapport with an instructor. A definition of "student–instructor rapport" was provided to participants at the beginning of this section to ensure participants conceptualized this construct in the same manner as the

researchers. All Section 3 items included the same 7-point Likert-type response scale ranging from 1 (Very Helpful to Rapport) to 4 (Rapport is Unaffected) to 7 (Very Harmful to Rapport). A sample item is, "Syllabus allows students to use laptops to take notes during class."

Section 4 contained six items about how different instructor reactions to catching you using your device for off-task purposes affect your perceptions of student–instructor rapport. All Section 4 items included the same response scale as Section 3. Sample items include, "Instructor talks to you privately after class or sends you an email" and "Instructor takes points away from your grade."

Section 5 contained six items about how seeing an instructor react to catching a class-mate using their device for off-task purposes affects your perceptions of rapport with that instructor. All Section 5 items included the same response scale as Sections 3 and 4. Sample items include, "You see instructor call out a classmate for using their device" and "Instructor glares at classmate until they put their device(s) away."

Section 6 included four items. One open-ended item inquired whether instructors use other strategies to curb digital distraction aside from those contained in the online survey. One selected-response item pertained to whether participants believe instructors have the right to police device use during class, and another selected-response item pertained to the extent to which participants believe their instructors care about the amount of digital distraction taking place in the classroom. The final item used a 1–10 response scale (1 = Do not care at all; 10 = Care a lot) to gauge the extent to which participants believe their instructors care about digital distraction taking place in their classrooms.

Demographics survey

After completing the 31-item survey, participants reported demographic information related to their gender, grade level, major, age, race/ethnicity, and university attended. Participants reported their gender and major through open-ended response items. All other items on the demographic survey were selected-response format.

Raffle entry form

Following the completion of the demographic survey, participants from University D were provided with an optional link that opened a Google Forms® document that was not connected to their research data. The Google Forms® document contained a prompt that gave participants the option of entering their email address into a raffle to win one of the gift cards.

Procedure

After obtaining permission from each university's respective Institutional Review Board. Participants at Universities A, B, and C were obtained through designated research participant pools (e.g., SONA systems). Potential participants from Universities A, B, and C were assigned to either the present study or another ongoing study and were given the option to complete an alternative activity to earn course credit for research participation. Recruitment flyers were posted, and recruitment emails were sent to instructors to post onto their course's learning management system (e.g., Folio, Canvas) at University D. Participants completed the electronic research materials online on their own time

outside of class. Data collection took place during the Fall 2021 and Spring 2022 semesters. All research data were securely stored on a password-protected Qualtrics® account accessible only by the primary researcher. Email addresses of participants from University D who opted into the optional raffle were securely stored on a password-protected Google Forms® document accessible only by the primary researcher.

Results

This study addressed whether undergraduate students perceived digital distraction-related policies and enforcement strategies as influential on their perceptions of rapport with instructors. Findings related to device ownership and off-task use in the classroom are presented first to contextualize participant experiences with digital distraction in the classroom. Then, participant perceptions of digital distraction-related policy and enforcement strategy effectiveness are presented. Finally, findings related to how rapport may be influenced by digital distraction policies and enforcement strategies are presented.

Mobile device ownership and use in the classroom

Mobile device ownership is essentially universal across the genders, ages, grade levels, and majors represented by the participants in the present study. All participants own at least one mobile device, 96% of participants own more than one device, and 64% of participants own three or more devices. Laptops (96% of all participants) and smartphones (94%) are the devices most widely owned by this sample of undergraduates. Yet, a sizable minority of these participants also own tablet devices (43%) or smartwatches (41%). Considerably fewer participants own nonsmartphone cellular phones (6%) and other devices (8%).

The data also indicate that students regularly bring these devices to class and use them for off-task purposes. Ninety-four percent ($n = 512$) of the participants "Always" bring their mobile devices with them to their classes, while less than 1% ($n = 3$) of the participants "Rarely" or "Never" bring their mobile devices to class. Participants reported regularly using these devices for off-task purposes. On average, participants use their mobile devices for off-task purposes about 30% of the time across all their classes ($M = 29.44$; $SD = 26.54$). Only 2% ($n = 10$) of the sample never use their mobile devices for off-task purposes during class. See Table 1 for an overview of digital distraction frequencies during typical class periods.

Table 1. Percentage of a Typical Class Period Spent Using Digital Devices for Off-Task Purposes.

Percentage of a typical class period	N
0%	10 (2%)
1–10%	176 (33%)
11–33%	186 (35%)
34–65%	91 (17%)
66–100%	73 (13%)

Note. Values in parentheses represent the percentage of the participants who responded to this item.

Table 2. Off-Task Activities Engaged in on Mobile Devices During Class.

	N
Mobile phone	
Texting/messaging	465 (86%)
Scrolling social media	335 (62%)
Browsing the Internet	150 (28%)
Online shopping	82 (15%)
Gaming	94 (18%)
Laptop	
Texting/messaging	184 (34%)
Scrolling social media	61 (11%)
Browsing the Internet	253 (47%)
Online Shopping	156 (28%)
Gaming	47 (9%)
Smartwatch	
Texting/messaging	58 (11%)
Other activities	48 (9%)

Note. Values in parentheses represent the percentage of the participants who responded to this item.

The values displayed in Table 2 reveal the numerous activities that students engage in on their devices during class—messaging, surfing the Internet and social media, playing games, and shopping online are all activities that occur while students attend classroom lessons.

Likelihood of getting caught using devices for off-task purposes

Students reported widespread use of mobile devices for off-task purposes during class, but most participants were not worried about getting caught. Specifically, 84% of participants reported they are "unlikely" ($n = 261$) or "very unlikely" ($n = 194$) to get caught using their devices for off-task purposes during class. Only about 16% of participants reported it is "likely" ($n = 76$) or "very likely" ($n = 9$) they will get caught.

Participant perceptions of instructor rights to curb digital distraction in the classroom

Most participants agree that policies to curb classroom digital distraction should be in place. However, there was no uniformity among the undergraduate participants about who should develop these policies. Almost half of the participants ($n = 263$) reported instructors should get student input when determining which technology-related policies and consequences to use in their classes. Yet, about one-third of the participants ($n = 185$) reported instructors should have sole discretion for implementing and enforcing technology-related policies and consequences. A minority of participants ($n = 85$) reported instructors have no right to control how students use their mobile devices during class.

Effectiveness of digital distraction prevention strategies

Most participants do not view syllabus policies as the solution. Only about 30% of the participants indicated that having a mobile technology policy in the syllabus would be at least

Table 3. Perceived Effectiveness of Digital Distraction Prevention Strategies.

	Syllabus technology policy	Calling students out when caught	Private Talk or email when caught	Points deduction when caught	Banning devices from class when caught	Active learning strategies to deter	Whole-class policy reminder when caught
Very ineffective	103 (19%)	33 (6%)	22 (4%)	29 (5%)	71 (14%)	13 (2%)	42 (8%)
Moderately ineffective	113 (21%)	41 (8%)	31 (6%)	19 (4%)	74 (14%)	39 (7%)	90 (17%)
Little to no impact	156 (29%)	69 (14%)	75 (14%)	49 (9%)	113 (21%)	97 (18%)	167 (31%)
Moderately effective	143 (27%)	239 (44%)	244 (45%)	125 (23%)	146 (27%)	190 (36%)	179 (33%)
Very effective	23 (4%)	152 (28%)	165 (31%)	315 (59%)	130 (24%)	199 (37%)	60 (11%)

Note. Values represent the total number of participants who selected each response option. Percentages represent the percentage of participants who selected each response option.

moderately effective for curbing digital distraction. Instead of relying on a syllabus policy to solve the issue, our data indicate that enforcement strategies are most effective. As shown in Table 3, participants identified deducting points from the student's grade, privately talking or emailing with the student after class, and calling the student out in front of their classmates as the most effective enforcement strategies when a student is caught using their mobile devices for off-task purposes. Fewer than half of the participants reported that providing a whole-class reminder of the course policy after witnessing digital distraction—without calling out the offending student—effectively reduces the behavior.

Point deductions, talking or emailing privately, and calling students out after they are caught off-task are reactive enforcement strategies instructors can use after they witness student digital distraction. However, about 72% of the participants indicated that active learning experiences in the classroom (e.g., small group work, hands-on problem solving, classroom discussions) are either moderately or very effective for preventing student digital distraction from occurring.

Influence of syllabus policies on student perceptions of rapport

As shown in Table 4, syllabus policies related to digital distraction can be both helpful and harmful for student perceptions of rapport. Banning mobile technology in the classroom to curb student digital distraction seems to be the biggest policy threat to student perceptions of rapport. About 47% of participants indicated such a policy would harm their rapport perceptions with an instructor. Instead of banning mobile devices from class, it seems that adopting policies that allow the use of those devices for educational purposes—but banning using devices for off-task purposes—can improve student perceptions of rapport. Approximately 75% of participants said being allowed to type their notes on a laptop would positively affect rapport perceptions. Allowing unrestricted use of mobile devices during class also appears to be an avenue for improving most students' perceptions of rapport toward an instructor—according to 61% of participants. Yet, the data in Table 4 suggest that rapport perceptions are more positively influenced by technology policies that specify appropriate and inappropriate technology use than by policies that allow unrestricted device use during class.

Table 4. Syllabus Policies and Student Perceptions of Rapport.

	Syllabus policy bans all mobile device use	Syllabus policy allows typing notes	Syllabus policy allows all mobile device use
Very helpful to rapport	22 (4%)	186 (35%)	117 (22%)
Moderately helpful to rapport	43 (8%)	132 (24%)	112 (21%)
Slightly helpful to rapport	77 (14%)	84 (15%)	98 (19%)
Rapport is unaffected	140 (26%)	98 (19%)	125 (23%)
Slightly harmful to rapport	115 (21%)	19 (3%)	50 (9%)
Moderately harmful to rapport	77 (14%)	12 (2%)	25 (5%)
Very harmful to rapport	63 (13%)	6 (1%)	9 (1%)

Note. Values represent the total number of participants who selected each response option. Percentages represent the percentage of participants who selected each response option.

Impact of instructor reactions to digital distraction on student perceptions of rapport

The strategies that instructors use while reacting to student digital distraction are consequential for student perceptions of rapport—both for the offending student and for classmates who observe a student being reprimanded. As shown in Tables 5 and 6, three instructor reactions were identified by participants as being particularly harmful to their perceptions of rapport: calling a student out, deducting points from grades, and banning devices. However, it should be noted that these strategies were among those identified previously by these participants as being the most effective for curbing student digital distraction (see Table 3). Thus, it appears that college instructors face a pedagogical challenge because the strategies students identify as most effective for curbing digital distraction are among the strategies that most negatively impact their perceptions of rapport with instructors.

Table 5. Impact on Rapport When Instructor Catches You Digitally Distracted.

	Calls you out	Private talk or email with you after class	Deducts points from your grade	Reminds whole class of the course policy	Glares at you until device put away	Bans you from bringing devices
Very helpful to rapport	20 (4%)	66 (12%)	24 (5%)	45 (8%)	14 (3%)	22 (5%)
Moderately helpful to rapport	28 (5%)	72 (13%)	27 (5%)	87 (16%)	23 (5%)	16 (3%)
Slightly helpful to rapport	32 (5%)	113 (21%)	33 (5%)	112 (21%)	52 (9%)	28 (5%)
Rapport is unaffected	51 (9%)	116 (21%)	60 (12%)	194 (36%)	102 (19%)	66 (12%)
Slightly harmful to rapport	98 (18%)	109 (20%)	103 (19%)	57 (12%)	138 (26%)	60 (12%)
Moderately harmful to rapport	115 (21%)	40 (7%)	118 (22%)	23 (4%)	125 (23%)	121 (22%)
Very harmful to rapport	190 (35%)	19 (4%)	164 (31%)	17 (3%)	81 (15%)	222 (41%)

Note. Values represent the total number of participants who selected each response option. Percentages represent the percentage of participants who selected each response option.

Table 6. Impact on Rapport When Instructor Catches Classmate Digitally Distracted.

	Calls classmate out	Private talk or email with classmate after class	Deducts points from classmate's grade	Reminds whole class of the course policy	Glares at classmate until device put away	Bans classmate from bringing devices
Very helpful to rapport	20 (4%)	53 (10%)	26 (5%)	47 (9%)	13 (2%)	18 (3%)
Moderately helpful to rapport	36 (7%)	76 (14%)	24 (5%)	85 (17%)	34 (7%)	25 (5%)
Slightly helpful to rapport	46 (9%)	91 (17%)	42 (8%)	97 (18%)	51 (9%)	25 (5%)
Rapport is unaffected	136 (25%)	207 (38%)	133 (25%)	211 (38%)	161 (30%)	117 (21%)
Slightly harmful to rapport	129 (24%)	65 (12%)	114 (21%)	52 (10%)	125 (23%)	86 (17%)
Moderately harmful to rapport	97 (18%)	28 (6%)	97 (18%)	22 (5%)	77 (14%)	111 (21%)
Very harmful to rapport	61 (11%)	3 (1%)	89 (17%)	11 (2%)	64 (11%)	143 (26%)

Note. Values represent the total number of participants who selected each response option. Percentages represent the percentage of participants who selected each response option.

The instructor reaction that participants identified as the most harmful to their rapport perceptions was banning mobile devices from class. If participants were to have their devices banned after being caught using them, 63% reported this reaction as being either "moderately" or "very" harmful to their perceptions of rapport with that instructor—and 47% viewed it as being "moderately" or "very" harmful to their rapport perceptions when they discover that a classmate had their devices banned. These percentages are higher than if a participant has points deducted from their grade—52% view this as either "moderately" or "very" harmful to their perceptions of rapport—or discovers a classmate has had points deducted from their grade (34% of participants).

Calling students out was identified as a hindrance to rapport, even though it had also been identified as effective for curbing digital distraction. Almost 60% of participants indicated that being called out in front of their classmates is "moderately" or "very" harmful to their perceptions of rapport with that instructor—and 29% viewed it as being "moderately" or "very" harmful to their rapport perceptions when they see it happen to a classmate.

Delivering a verbal reminder to the whole class about the course technology policy—without calling out any students—appears to be a viable strategy for protecting rapport. Approximately 82% of participants indicated that this instructor reaction would either help or not affect their rapport perceptions if they were the one who had been caught using their device for an off-task purpose. Furthermore, about 84% of participants indicated that a whole-group reminder would either help or not affect their rapport perceptions if they suspected the reminder was being delivered because a classmate had been seen by the instructor using their devices for off-task purposes. Presumably, whole-group reminders can be helpful for rapport because they are as seen as a respectful, less confrontational way to enforce the course policies without embarrassing the

offending students. As previously noted and shown in Table 4, most of these participants do not view verbal whole-class reminders as particularly effective for curbing digital distraction during class.

Discussion

Prior research indicated that college-level instructors are apprehensive about how they respond to student digital distraction because they worry their responses will affect student perceptions of rapport with them (Flanigan et al., 2021; Flanigan & Babchuk, 2015). The present study demonstrated that this concern is warranted. Although participants spend quite a bit of time using their digital devices for off-task purposes during class, they were also generally supportive of having technology policies in their courses related to digital distraction. However, participants indicated that the way course policies are designed, implemented, and enforced is consequential for their perceptions of student–instructor rapport. Present findings also indicate that college instructors are in a bind. The strategies that these participants identified as being the most effective for enforcing technology policies—calling students out, points deductions, banning devices—were also among those strategies that were identified as having the most negative impact on students' rapport perceptions. Such findings indicate that college instructors are accurate in their perception that the way they address student digital distraction can be consequential for student perceptions of rapport with them.

   Allowing students to have unrestricted access to mobile technology during class seems to be a way to improve student perceptions of rapport—according to about two-thirds of our participants—but calls into question whether the instructor is adequately protecting the integrity of the classroom learning environment by not attempting to curb student digital distraction through a course policy (Flanigan & Babchuk, 2022). Consistent with prior research (McCoy, 2020; Wammes et al., 2019), the results of this study showed that undergraduates who bring their digital devices with them to class frequently use those devices for off-task purposes, which can hinder their own learning (Demirbilek & Talan, 2018; Wu et al., 2018) and negatively affect the learning of students seated nearby (Sana et al., 2013). As discussed by Flanigan and Babchuk (2022), digital distraction seems to create a situation wherein instructors would be wise to protect the integrity of the learning environment by developing and enforcing classroom technology policies. Given what is known about the consequences of learning experienced by the digitally distracted student (Demirbilek & Talan, 2018; Flanigan & Titsworth, 2020; Glass & Kang, 2019) and their classmates seated nearby (Sana et al., 2013), the issue of student digital distraction is not one that should be ignored by college instructors.

Interpreting findings with SDT

The present findings are consistent with the premises of SDT (Reis et al., 2000; Ryan & Deci, 2000), as technology policies and enforcement strategies appear to have the potential to threaten students' basic needs for autonomy, competence, or relatedness. Only about one-third of the participants believe that instructors should have full autonomy

when developing course technology policies, while almost half of the participants believe instructors should not have full autonomy and should instead solicit student input on course technology policies. This indicates that students want to have a sense of choice or control over the policies they are subjected to in their courses. Taking this sense of choice away from the students may threaten their perceptions of autonomy over their learning environment. Centering course policies on appropriate versus inappropriate use of technology during class was strongly endorsed by our participants and seems to provide students with the autonomy to decide whether to use their devices for educationally appropriate purposes during class.

Banning laptops and other devices students see as learning tools might threaten the need for autonomy and competence. Approximately 75% of participants indicated that policies allowing laptop note-taking improved their rapport perceptions. Taking away the students' ability to decide whether to take notes on a laptop could threaten their perceptions of autonomy in the classroom. Undergraduates have contended that banning devices restricts their autonomy in an unwanted way in the classroom (Redner et al., 2020; Tatum et al., 2018). Moreover, given that most students believe laptops are valuable learning tools (Morehead et al., 2019; Witherby & Tauber, 2019), banning laptops from the classroom could inadvertently make them feel less competent to take notes or learn during class.

Finally, confrontational strategies like verbal reprimands and point deductions might threaten the need for relatedness—of both the offender and their classmates. Indeed, students have identified such instances of confrontation as relational turning points that strain the quality of student–instructor interpersonal relationships (Docan-Morgan & Manusov, 2009). Taken altogether, the present findings seem to align with the assumptions of the SDT framework for student motivation (Reeve, 2012). Participants reported that several digital distraction-related policies and enforcement strategies can weaken their perceptions of instructor–instructor rapport, plausibly because these policies and enforcement strategies also threaten students' basic needs for autonomy, competence, and relatedness in the classroom. Although additional research is needed to investigate the links between rapport and these three basic psychological needs, using SDT as a lens to interpret the present findings suggests such a relationship.

Recommendations for practice

Recommendations for using our findings to inform how undergraduate instructors can address student digital distraction in ways that minimize threats to student perceptions of rapport are provided below.

Coconstruct course technology policies with students

Most participants preferred when their instructors solicit student input when designing course policies, and previous research found that undergraduates view instructors and their policies as more credible when this occurs (Frey & Tatum, 2017). Our findings and prior research (Vahedi et al., 2021) showed little support from students when instructors unilaterally implement a ban on electronic devices in the classroom and that banning does not consistently reduce student digital distraction (Jones et al., 2020). Instructors who issue an outright technology ban are at risk of causing students to view them as being more aggressive and less credible (Finn & Ledbetter, 2013,

2014). Consequently, present and prior (e.g., Santos et al., 2018) findings indicate that collaborating with students on course technology policies can increase student buy-in to those policies while supporting students' autonomy to decide how technology should and should not be used in the classroom.

Differentiate between appropriate and inappropriate technology use

Students appreciate being able to use their digital devices for educational purposes during class (Broeckelman-Post & MacArthur, 2018). Most of our participants indicated that rapport perceptions are improved when instructors let them use laptops for educational purposes (e.g., typing notes). Other research has shown that students enjoy using mobile phones for educational purposes in the classroom (e.g., Stowell, 2015) and that doing so can improve student learning (Kuznekoff et al., 2015). Providing a rationale for why certain activities are considered inappropriate—like telling students about the impact digital distraction has on note-taking quality—could perhaps further improve student buy-in and aid student perceptions of instructor credibility (Cheong et al., 2016; Elliott-Dorans, 2018; Finn & Ledbetter, 2013). Furthermore, providing such a rationale could show students that instructors care about the issue of digital distraction and are concerned about digital distraction taking place during class.

Use proactive prevention strategies to curb digital distraction

Flanigan and Babchuk (2022) differentiated between reactive and proactive strategies for curbing student digital distraction. Reactive strategies are those that occur after digital distraction has occurred (e.g., docking points, phone confiscation, public reprimand). Proactive strategies are those that seek to curb digital distraction by decreasing the likelihood it occurs in the first place. Many of the undergraduate instructors interviewed by Flanigan and Babchuk (2022) try to proactively curb student digital distraction by incorporating active learning experiences into their classrooms. By keeping students engaged and their hands, voices, and minds occupied, these instructors believe digital distraction frequencies can be reduced. Present findings support using active learning experiences as a proactive way to prevent student digital distraction. Most participants in the present study indicated that active learning experiences are moderately or very effective for reducing digital distraction. Examples of active learning strategies that can be used in the classroom include hands-on individual or small-group work, class discussions or debates, experiments, peer teaching, and problem-based learning (McConnell et al., 2017; Silberman, 1996; Ueckert & Gess-Newsome, 2008).

Privately talk or email with offending students after class

Although undergraduates have previously indicated that private reprimands do little to reduce off-task device use during class (Berry & Westfall, 2015), most of our participants indicated that private conversations or emails with instructors after they are caught digitally distracted are effective. Furthermore, our data indicate that private conversations or emails do not negatively affect students' rapport perceptions. It is important to note that these private conversations or emails do not need to include a reprimand. Rather, an instructor could remind the student of the course policy, encourage them to remain on task, or offer recommendations for how the student might avoid succumbing to digital distraction in the future.

Use punitive penalties tactfully

Punitive, confrontational strategies are effective for curbing student digital distraction (Berry & Westfall, 2015; Redner et al., 2020; Stachowski et al., 2020). Calling students out and deducting points from their grades were identified by our participants as two of the most effective strategies for curbing student digital distraction. However, such strategies were also among those that do the most harm to student perceptions of rapport. Given that student engagement is positively associated with their rapport perceptions (Frisby et al., 2014; Frisby & Martin, 2010), enacting punitive penalties that harm rapport can also have the unintended consequence of negatively impacting overall climate, participation, and student success. As a result, punitive penalties should not be an instructor's first option when students are caught using their devices for off-task purposes.

Limitations and future research

The present study was the first to identify links among course policies and enforcement strategies intended to curb digital distraction and student perceptions of rapport with their instructors. However, there were limitations that could be addressed in future research to provide more insight into how instructors can address digital distraction in ways that minimize damage to student perceptions of rapport. First, most participants were recruited through convenience sampling. Future research involving a random sampling procedure would be likely to obtain a sample more representative of the general undergraduate population. Second, 70% of our participants were freshmen or sophomores, leaving upperclassmen underrepresented in our sample. Third, about 80% of the sample was White or European American. Although this percentage is only slightly higher than the demographics at the four universities represented by our sample, future research with a more diverse sample could improve our understanding of how digital distraction prevention affects the rapport perceptions of students from minority and underrepresented backgrounds. Fourth, participants were only recruited from four universities in the United States. Expanding recruitment to more universities or countries would allow future research to provide more insight at the national or international level. Fifth, future research should investigate how course size affects the relationship between digital distraction prevention and student perceptions of rapport. No data were gathered in our survey related to class size. For instance, perhaps student concerns about getting caught, instructor strategies for addressing student digital distraction, and rapport perceptions are different depending on whether students are in courses with small or large enrollments. Finally, future research could leverage quasiexperimental designs to investigate whether digital distraction frequencies and student perceptions of rapport are different in classes where students did or did not cocreate technology policies with their instructors.

Conclusion

Student perceptions of rapport with instructors are positively linked to a host of affective, motivational, and achievement outcomes (e.g., Frisby et al., 2014; Wilson & Ryan, 2013)—which is why researchers contend that cultivating and sustaining a strong sense of rapport with students is an important objective in instructional settings

(Flanigan & Babchuk, 2022; Frisby & Buckner, 2018). Present findings indicate that college instructors correctly believe that technology policies design and enforcement affect student perceptions of rapport with them (Flanigan et al., 2021; Flanigan & Babchuk, 2022). Moreover, interpreting these findings through the lens of SDT (Reis et al., 2000; Ryan & Deci, 2000) indicates that instructors should consider how their technology policies and enforcement strategies might affect students' basic needs for autonomy, competence, and relatedness in the classroom if they hope to curb digital distraction in ways that protect their rapport with students. In conclusion, it appears that digital distraction has become more than just an obstacle to student success; it is also a phenomenon college instructors must account for when managing their classrooms and building interpersonal relationships with their students.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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