



The National College Testing Association (NCTA) is a non-profit organization of testing professionals working in post-secondary institutions, in companies with test-related products and services, and in other professional testing venues. NCTA was organized in 2000. NCTA is dedicated to the promotion of professionalism and quality in the administration of testing services and programs, including issues relating to test administration, test accessibility, test development, test scoring, and assessment.

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Farewell Letter from the Editors

This is the farewell issue of the *Journal of the National College Testing Association (JNCTA)*, the brainchild of Jim Wollack and Lou Woodruff. Work on developing the journal officially began in 2011. Jim, Lou, and the Governing Board believed that an established professional organization should have a professional publication to highlight its contributions to the field for those within and beyond the membership. They envisioned a scholarly journal with peer-reviewed research articles that would shine a light on the valuable work being done by, and for the benefit of, NCTA. For the next four years, Jim worked with Lou and former NCTA member Jack Turner to develop policies and guidelines, solicit manuscripts, and identify a network of reviewers, culminating in the publication of the first issue in 2015. Jim continued to serve as the Editor for *JNCTA* until 2017, at which point he stepped down, but continued on as a member of the Editorial Board. Sara Rieder Bennett replaced him as Editor and served in that capacity until stepping down in 2021 to move into her role as President of NCTA. Steve Saladin, a former President of NCTA who had recently retired, took over as the 3rd and final Editor of *JNCTA* from 2021 until this final issue in 2026.

We would like to acknowledge the individuals who served on the Editorial Board, both past and present. A big thank you to Fran Taylor, Laura Woodward, and Cindy James for their invaluable contributions to *JNCTA* over the years. We would also like to express our appreciation for the individuals, too numerous to list here, who served as reviewers for the manuscripts that were submitted for publication, and for the authors who chose to entrust the *JNCTA* to be the outlet for their professional work. And finally, we would like to thank Juli Cook and Alyssa Eversmeyer, our original and current copyeditors. A special shout-out to Alyssa, who started her work as copyeditor while in graduate school but continued with us through an internship, a post-doctoral fellowship, and her first professional position. Without the efforts of these individuals, there never would have been a *JNCTA*.

From the beginning, it was somewhat of a struggle to solicit manuscripts for publication. While this is not particularly unusual for a new journal, this will be the seventh volume and only the eighth actual research article to be published over an 11-year span. Over the years, the Editorial Board has consulted with the Governing Council regarding challenges in increasing authorship and has implemented several strategies to increase participation: holding informational sessions at the annual conference, working with the grants committee to offer some financial support for research projects that might wind up being submitted to the journal, and offering a more collaborative and proactive model in which the Editorial Board provided feedback on research proposals during the early research stages, in hopes of getting projects off the ground and pointed in the right direction. Since these various efforts did not result in marked improvements to the overall volume of submissions, in 2025, the Governing Council recommended pivoting away from a traditional research journal and towards a somewhat different format which still provides members and other interested parties with an outlet for sharing and debating ideas and experiences related to the roles and responsibilities of testing in higher education.

The focus of *JNCTA* has been on empirical, scientific research. This type of research traditionally focuses on what impact one thing might have on another, and investigating this as objectively and impartially as possible. It frequently involves random assignments to groups and carefully controlling different research factors for purposes of making causal inferences. Ideally, it involves large, representative data samples that permit the research findings to be generalized widely. Typically, the team conducting this type of study includes, or consults with, an individual with specialized training in research design and data analysis.

But this is not the only way to conduct meaningful research. The day-to-day work of most of our members encourages evaluation as a means to support, change, or improve their operations. Data collection in studies aimed at evaluation tends to focus on demonstrating the efficacy of a program, the efficiency of a process, or the impact of an operation. So, while we certainly have some members who regularly engage in strong, empirical research, for most of our members, the principal aim of our research endeavors is to justify or market either what we currently do or something we want to implement, rather than to objectively isolate and evaluate the unique contributions of individual variables under different, carefully controlled settings. This type of data collection and analysis is perfectly valid and is a vital part of running, managing, and improving our operations, but it is not empirical, scientific research.

Ultimately, the NCTA Governing Council decided to discontinue *JNCTA* and moved to replace it with a new publication that focuses more on sharing useful operational tips, success stories, and other items relevant to the work within testing centers. There will still be room for research, empirical and otherwise, but it will not be the focus of the publication. Hopefully, it will enjoy more widespread interest and engagement from the membership.

It has been an honor and a privilege to have served as an Editor for *JNCTA*. Despite the low volume of submissions and the engagement with a relatively small cross-section of the membership, we feel that the journal has met its principal aim and has been an important piece of raising the professionalism and national visibility of the organization within the broader testing community. So, while we are proud of the manuscripts and other works that we have published, we also strongly believe that the move to a more member-focused publication is the right one for the organization. We are excited for this new chapter to begin and are hopeful that the membership will embrace it and will help it to realize its full potential.

Yours in Testing,

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Patterns and Trends of Perceived Testing Irregularities Experienced by University-Based Testing Centers

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Research suggests that a significant majority of undergraduate college students in the United States have engaged in various forms of academic misconduct. The need to explore academic integrity and testing irregularities is important in order to update our collective understanding of the field, especially following the forced transitions caused by the COVID-19 pandemic. We employed a cross-sectional descriptive research design using a web-based survey to understand the perceived testing irregularities in academic testing centers before and after the height of the COVID-19 pandemic. Using the testing irregularities framework from the Texas Education Agency (TEA), we sorted the perceived testing irregularities into procedural irregularities and misconduct irregularities. Procedural irregularities occur when testing personnel fail to follow testing procedures, and misconduct irregularities occur when students fail to follow testing procedures. Our findings indicated a perceived increase in testing irregularities following the pandemic, with the use of unauthorized items and unallowable assistance being the most frequent irregularity categories. We also provide examples of the most frequent and novel testing irregularity incidents reported by testing administrators. Findings can aid test administrators, testing associations, and third-party testing vendors in updating policies and practices to ensure test integrity.

Keywords: trends, academic misconduct, testing centers, testing and evaluation

PATTERNS AND TRENDS OF PERCEIVED TESTING IRREGULARITIES EXPERIENCED BY UNIVERSITY- BASED TESTING CENTERS

Research suggests that a significant majority of undergraduate college students in the United States have engaged in various forms of academic misconduct (Anitha & Sundaram, 2021). This trend is concerning, especially in light of growing skepticism among the public regarding higher education's ability to fulfill its societal promises (Kelderman, 2023; Knott, 2023), which center on the development of critical thinking, ethical citizenry, and a society dedicated to serving the greater good. Academic misconduct threatens the public's perception of the value of higher education. Additionally, the higher education landscape has been marred by scandals, such as the college admission scandal in the

early 2000s (Baker, 2019; Richards, 2019) and the increasing politicization of college presidencies (Busteed, 2023), both of which have raised questions about the integrity of academic processes. This corrosion of trust is reflected in the fact that Americans' confidence in higher education has fallen to an all-time low of 36% (Blake, 2023; Brennan, 2023).

Given these challenges, we aimed to investigate the trends and patterns of perceived testing irregularities within academic testing centers in U.S. colleges and universities. Our study specifically focused on misconduct testing irregularities and procedural testing irregularities, utilizing definitions and examples from the Texas Education Agency (TEA). Although considerable research on academic misconduct has occurred within higher education (Montoneri, 2020), a limited number of studies have been conducted emphasizing academic testing centers. Several scholars have recommended more

contemporary inquiry to understand how the pandemic impacted the adoption of new online proctoring technology (Mittal et al., 2022), student assessment administration methods (Şenel & Şenel, 2021), instructional methods (Rapanta et al., 2021), and the student experience (Mucci-Ferris et al., 2021, 2023). This study sought to be a start toward a contemporary understanding of patterns and trends in testing irregularity as perceived by academic testing administrators.

Our study focused on perceptions of testing irregularities experienced on-site at academic testing centers conducting in-person testing. We particularly focused on the period after March 2020, which we described to respondents as the height of the COVID-19 pandemic, to understand how the pandemic may have influenced these irregularities and to improve proctor training and in-person testing center monitoring practices. By examining various testing irregularities, we aimed to enhance our understanding of their potential implications for academic integrity and educational policy. Ultimately, we aimed to provide insights that could help improve academic integrity and mitigate reputational and other threats facing higher education institutions. Our literature review emphasizes behavioral irregularities, often referred to as academic integrity or cheating. Procedural irregularities are minimally discussed in the literature and therefore are not discussed as extensively in our review.

Academic Misconduct and Integrity

Academic integrity is a fundamental principle in education. *Academic misconduct*, which encompasses actions like cheating and plagiarism, undermines the fairness and effectiveness of the learning

process. Research by Hughes and McCabe (2006) highlighted the prevalence of academic misconduct in the United States, identifying both personal and institutional factors contributing to it. The International Center for Academic Integrity (2020) reported based on more recent survey data “that more than 60 percent of university students freely admit to cheating in some form” (para. 2). The survey was initially executed by McCabe in 1990 and was repeated across various college campuses in 2020 with a sample size of 840 students (International Center for Academic Integrity, 2020).

Even more alarming are the statistics centered around students’ perceptions of what they consider to be cheating. For example, students agreed that cheating is unacceptable in general, but less than 60% believed that using online guides during exams was cheating (Walsh et al., 2024). The issue appears to be particularly concerning for international students. Studies by Bertram Gallant et al. (2015) and Parnter (2022) suggested that international students were at higher risk of violating academic integrity policies.

The specific methods of academic misconduct vary, but research has suggested a troubling consistency across campuses (Perry, 2010). Earlier studies have documented that traditional cheating methods like copying classmates’ work (i.e., plagiarism) or using unauthorized information sheets during exams have remained prevalent (Awasthi, 2019; Fendler et al., 2018). Moriarty and Wilson (2022) suggested that institutions must balance justice and consistency in adjudicating alleged acts of academic misconduct. Sometimes, inconsistency on these two fronts has led to more academic misconduct cases, since cases have gone unreported to academic integrity boards due to the extra

effort placed on the reporting party (Moriarty & Wilson, 2022). Inconsistency in how academic misconduct is defined and/or adjudicated may have further confused students' understanding and increased the likelihood of academic misconduct. Acknowledging the gap in the literature, our research aimed to determine the perceived frequency of academic misconduct and procedural irregularities, and subsequently, how these may be used by testing administrators to prevent academic misconduct and promote academic integrity.

COVID-19 Impacts on Higher Education

Up until March 2020, college students were accustomed to in-person teaching environments and courses. The spike in COVID-19 cases in 2020 led to a nationwide lockdown that forced most U.S. higher education institutions to shift to online learning and accommodate governmental policies centered on social distancing, masking, and contact tracing (Walke et al., 2020). This abrupt shift caused drastic changes in the way teachers facilitated classes, coursework, and testing (Mucci-Ferris et al., 2021).

Higher education institutions relied primarily on virtual learning modalities and online proctored exams. Online proctored exams became prevalent due to necessity during the COVID-19 pandemic, despite being adopted as early as 2008 by the technology companies Kytterion and ProctorU (Foster & Layman, 2013). To make this shift seamless, college students were expected to have technology that supported an online modality (Camara, 2020), and it was implied that students still needed to maintain the standards of academic integrity established by their home

institution. However, technology has introduced new avenues for academic dishonesty, with students potentially using online resources like AI to find answers (Walsh et al., 2024), or commission someone else to complete their assignments (Bashir et al., 2021). This introduces new potentials for academic dishonesty in testing centers, either in procedural irregularities or misconduct irregularities.

As colleges shifted to online learning during the COVID-19 crisis, many universities experienced a surge in reports of academic misconduct. For instance, at Virginia Commonwealth University, reports of academic misconduct skyrocketed during the 2020–2021 school year, reaching 1,077 cases, more than triple the previous year's number (Dey, 2021). Similarly, the number of cases at the University of Georgia more than doubled, rising from 228 in the fall of 2019 to over 600 in fall 2020 (Dey, 2021). Additionally, at The Ohio State University, incidents of cheating increased by more than 50% over the previous year (Dey, 2021). This trend is not unique to the United States, as countries like Australia, New Zealand, and Ireland have started implementing legislation that criminalizes certain cheating methods, like contract cheating (Hill et al., 2021). These reported increases lack specificity on the type of cheating or behavioral irregularity and may be less applicable in university academic testing centers.

Digital spaces can be complex to monitor (Karim et al., 2014), thus creating a challenge for educators. Classroom settings also remain vulnerable, with students collaborating on individual assignments or secretly sharing information during tests. A study by Yazici et al. (2023) indicated that universities and faculty were able to take additional precautions when monitoring online exams during the COVID-19

pandemic (e.g., special lockdown browsers, randomized questions and responses, stricter time restrictions) versus in-person exams. Yazici and colleagues also noted that students are still utilizing technological cheating methods (e.g., cell phones, social media, WhatsApp), which are considered misconduct irregularities (TEA Test Assessment Security Team, 2019). Although these reflections are helpful in understanding the context of cheating at home during COVID-19 lockdowns, limited studies have explored academic misconduct since COVID-19 and, more specifically, testing irregularities occurring exclusively within university-based testing centers.

Relevance and Purpose

Research on testing irregularities at university-based testing centers is relevant to testing administrators, academic misconduct boards, instructors, the field of higher education, and professional testing associations. There is a need to explore academic integrity and testing irregularities to update our collective understanding in the field, especially following the forced transitions caused by the COVID-19 pandemic. The purpose of this research study was to understand testing irregularities occurring during in-person proctored exams at U.S.-based academic testing centers. The study is important because minimal studies exist on testing irregularities within university-based testing centers, and even fewer have been conducted on these testing centers since the changes wrought by the COVID-19 pandemic. Existing literature on academic dishonesty has focused on misconduct irregularities, with little mention of procedural irregularities. Studying and emphasizing procedural irregularities by academic testing professionals are essential because consistent testing delivery

procedures are foundational to maintaining testing integrity. Variations in how tests are administered, such as differences in timing, monitoring practices, permitted materials, or accommodations, can introduce unfair advantages or disadvantages for test takers. Identifying and addressing procedural irregularities are essential for ensuring academic standards and equitable student outcomes.

METHOD

Our approach was shaped by the postpositivist beliefs that knowledge is probabilistic rather than absolute, and that we can approach objective truth, but with the understanding that complete objectivity is impossible (Creswell, 2008). With this in mind, we employed a cross-sectional descriptive research design using a mixed-methods, web-based survey (Setia, 2016). Importantly, this research study and associated protocols were approved by the research team's Institutional Review Board.

Inclusion and Exclusion

Participants were current members of the National College Testing Association (NCTA) within the United States. According to information provided by a gatekeeper, an NCTA volunteer who aided us in our survey distribution, listserv membership varied by testing center but likely included testing administrators, testing managers, and testing center directors from testing centers.

Sampling Procedure

At the time of the research study, approximately 1,250 of over 2,000 NCTA members were subscribed to the association listserv, through which email invitations to participate in the study were sent out in June 2024. A total of three emails were sent

over the listserv. The recruitment emails utilized Dillman and colleagues' (2014) tailored design method to improve the response rate. Tailored design techniques utilized included reference to the NCTA sponsorship authorizing the study, study purpose, and so forth. A raffle incentive was offered to respondents who completed the entire survey, opted into the raffle, and were randomly selected to win one of 50, \$20 retail gift cards.

Sample

A total of 85 responses were received, but only 47 respondents completed the survey. Partial responses were included in the analysis (King et al., 2001). Partial responses were included if the respondent consented to the study, regardless of the progress made in the survey instrument. When reviewing partial responses to ensure no threats to reliability within the survey design, it became clear that many of the partial data were simply incomplete (i.e., ending responses at a particular point in the survey). Survey items where respondents stopped varied and were determined to be missing completely at random (Rubin, 1976), when considering demographic and survey metadata variables. Therefore, all 85 responses were included in the analysis. The resulting sample comprised 42 respondents from non-certified NCTA testing centers in the United States, with the remaining respondents from certified centers. Forty-five, or 53%, were from public institutions, and only one respondent was from a for-profit institution. 49% of testing administrators responded to the survey report within the student affairs division.

Measures and Instrumentation

To achieve the purpose of this study, we developed a 27-item survey instrument. The

web-based survey was built and administered via Qualtrics. It can best be understood conceptually in four parts: electronic consent, testing center characteristics, testing irregularities, and optional raffle entry.

The electronic consent invited participants to consent or not to the study. For participants who did not provide consent, the survey ended. If participants consented, they continued to the testing center characteristics section. For testing irregularities related to the present study, we adapted TEA categories for procedural (e.g., monitoring errors, eligibility errors) and misconduct-related (e.g., tampering, assistance) testing irregularities (TEA Test Assessment Security Team, 2019). After searching the literature, we determined that TEA offered a well-established and comprehensive framework for categorizing testing irregularities (see Appendix B), distinguishing between procedural errors and misconduct-related violations, which allowed for a structured and consistent approach to analyzing the types of irregularities observed in academic testing settings. Participants were able to respond to matrix-table, Likert-scale items indicating their perceptions of frequency, from 1 (*much lower*) to 5 (*much higher*). After the procedural and misconduct matrix tables, respondents were asked, "From your perspective, which [misconduct or procedural] irregularity category is most common at your testing center?"

The survey instrument was reviewed by a panel of experts outside of the research team who have experience in the administration of a university testing center or in proctoring tests at a center. This review helped to provide an important source of validity evidence regarding the content of the survey. As Rubio et al. (2003) asserted, "Using a panel of experts provides

constructive feedback about the quality of the measure and objective criteria with which to evaluate each item... [and] offers concrete suggestions for improving the measure” (p. 95). The research team made changes to the instrument based on feedback provided by the panel of experts: (a) updated question wording, (b) added examples of testing irregularity for each category, and (c) added open-ended questions about personal belonging storage, furniture setup, and staff protocol to testing irregularities.

Data Analysis

Descriptive statistics are provided for the various forms of testing irregularities in the study, and we presented means and standard deviations (Cooksey, 2020, Chapter 5; Creswell, 2008; Creswell, 2014) based on the survey responses received. These data revealed patterns and trends in perceptions of testing irregularities within U.S.-based testing centers, using responses to multiple-choice, Likert scale, or list-based questions (Creswell, 2014). For instance, we used frequency cross-tabulation, which involved counting perceived testing irregularity categories.

Hsieh and Shannon (2005) defined *qualitative content analysis* as “a method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes and patterns” (p. 1278). We applied this method to analyze open-ended text responses provided by survey respondents as to the most novel or most common testing irregularities. The open-ended survey item for novel testing irregularity was as follows:

Thinking back over the time from the height of the COVID-19 pandemic, please summarize the

most novel or interesting testing irregularity occurring at your testing center. Please include, in a deidentified way, who, what, when, where, how, similar in fashion to an incident report form.

To determine the most common testing irregularities, respondents were asked,

Thinking back over the time from the height of the COVID-19 pandemic, please summarize the most frequent testing irregularity occurring at your center. Please include, in a deidentified way, who, what, when, where, how, similar in fashion to an incident report form.

We relied on a device, which Mayring (2000) named the *coding agenda*, to determine the TEA’s testing irregularities categories. Because the analysis was not data-driven, it was that coding agenda—TEA categories’ definitions of themes—that governed the assignment of each deductive category to a text passage that fit the theory (Boyatzis, 1998; Mayring, 2000). In other words, our analysis and interpretation of the data collected were guided by categories and themes that the TEA had previously defined prior to the data collection. A member of the research team reviewed each open text response and associated it with a TEA misconduct or procedural irregularity category. For instance, an open-ended response of “wrote on their arms, inside a picture on their T-shirt, and scrolled up a tiny roll of paper in their pencil tip around the eraser” was associated with the Use of Unauthorized Items category. Another example was “some students hack our appointment schedule to schedule appointments at unavailable days/ times”

was associated with the Tampering category. If a response could be related to more than one category, the most prominent or primary category was assigned. Therefore, all text responses were ultimately associated with one category rather than with multiple categories. A second research team member also reviewed this directed content analysis to improve inter-rater reliability. If two research team members disagreed on the assigned category, a third research team member broke the tie.

RESULTS AND FINDINGS

The primary purpose of this study was to understand the perceived differences in

testing irregularities and their frequency in academic testing centers as a result of the COVID-19 pandemic. Respondents were asked, “In your professional opinion, have the number of testing irregularities increased, decreased, or remained the same at your testing center following the height of the COVID-19 pandemic (03/2020)?” Survey respondents were presented with three answer choices: *increased* (recorded as 1), *remained the same* (recorded as 2), or *decreased* (recorded as 3). Descriptive statistics of their responses were as follows: (a) perceived to have increased ($n = 22$; 46%), (b) remained the same ($n = 22$; 46%), and (c) decreased ($n = 4$; 8%). These results suggest that respondents indicated a perceived stability or increase in testing irregularities.

Table 1
Self-Report of Procedural Irregularities

	Much Lower or Lower	About the Same	Much Higher or Higher	M	SD
Monitoring error	33%	58%	9%	2.62	0.83
Accommodation error	27%	62%	11%	2.69	0.95
Improper accounting of materials	30%	56%	4%	2.38	0.94
Eligibility errors	33%	58%	9%	2.56	0.92
Other procedural errors	29%	62%	9%	2.67	0.83

Note. $n = 45$.

Table 1 presents a self-report of the surveyed procedural irregularities in testing centers and their frequencies, means, and standard deviations based on the five-point Likert scale: 1 (*much lower*), 2 (*lower*), 3 (*about the same*), 4 (*higher*), and 5 (*much higher*). Irregularity categories with higher means, such as accommodation errors and other procedural errors, stood out.

Examples of accommodation errors included students being provided unallowable accommodation, not being

approved but receiving an accommodation, or not receiving an approved accommodation. 11% of respondents reported a higher or much higher increase in this irregularity category. Other procedural irregularities include testing personnel failing to use a test administrator manual, students being permitted more or less time on their exam than the allowed limit of the assessment, or testing personnel participating in testing even if they had not been properly trained. A total of 9% of

respondents perceived a higher frequency in this irregularity, but none indicated a much higher frequency. Interestingly, about 29% of respondents reported lower or much lower prevalence following the pandemic.

The improper accounting of materials procedural irregularity stood out, with only 4% reporting a perceived increase in frequency. Testing personnel losing completed exams or testing booklets, leaving secured testing materials unattended, and failing to return secured materials to the testing contractor were some of the examples represented in this irregularity. A total of 30% of respondents

perceived this irregularity was lower or much lower since the COVID-19 pandemic.

After respondents provided their perception of each procedural irregularity category, they were asked to select one from a dropdown list when prompted for the category occurring most at their testing center. Over half of the survey respondents selected either other procedural errors ($n = 13$, 35%) or monitoring errors ($n = 10$, 27%). Eligibility errors ($n = 8$, 22%) were the third most common type of irregularity at academic testing centers. Accommodation errors ($n = 2$, <1%) were the least reported irregularity.

Table 2
Self-Report of Misconduct Irregularities

	<i>Much Lower or Lower</i>	<i>About the Same</i>	<i>Much Higher or Higher</i>	<i>M</i>	<i>SD</i>
Tampering	38%	60%	3%	2.40	0.90
Assistance	28%	65%	8%	2.65	0.92
Viewing	28%	68%	5%	2.60	0.84
Disclosure	20%	75%	6%	2.73	0.85
Unauthorized duplication	33%	60%	8%	2.53	0.93
Unallowable assistance	28%	55%	18%	2.78	1.05
Failure to report	41%	58%	3%	2.40	0.87
Use of unauthorized items	28%	50%	23%	2.80	0.97

Note. $n = 40$.

Table 2 presents the count, mean, and standard deviations of the self-report of misconduct irregularities in testing centers as perceived by testing administrators. Misconduct irregularities such as the use of unauthorized items and unallowable assistance had the most frequently reported perceived increase 23% and 18%, respectively. Less frequently reported perceived increases included tampering and failure to report, both at 3%.

Based on testing center perceptions, 23% of respondents answered that the use of unauthorized items (e.g., smart watches,

spy pens, notes) had been higher since the COVID-19 pandemic. 18% of respondents reported that the use of unallowed assistance was perceived to be higher (no respondents indicated much higher) than before the pandemic. These irregularities (unauthorized items and unallowable assistance) were of special interest, especially when comparing the context of a post-COVID-19 pandemic world to their elevated mean scores.

Table 3
Examples of Novel Test Irregularities

Category	Summary Description
Use of unauthorized items (n = 16)	<p>A student faked a health condition to access unauthorized items.</p> <p>A student asked for a bathroom break. It was reported that the student hid their cell phone in the bathroom and used Google to assist them with test answers.</p> <p>A student used glasses that had cameras.</p> <p>A student was caught hiding their cell phone in their pants to use during their exam.</p> <p>A student was caught hiding and utilizing a second cell phone during the exam.</p> <p>A student came into the testing center for a second attempt at an exam. They insisted on using a calculator that was not authorized. It was later discovered that the student had hidden the calculator in their jacket pocket.</p> <p>A student refused a room check during their online exam and was caught attempting to use unauthorized notes out of camera range.</p> <p>A student had a picture on their t-shirt and rolled a tiny roll of paper to hide in their pencil tip around the eraser.</p> <p>A student rolled up a piece of paper with answers and stuck it in their mask.</p> <p>Students utilized transparent adhesive materials to write answers to the exam and use them in the testing center.</p> <p>Students hid notes in their calculators to use during their exams.</p> <p>A student was caught hiding notes behind the trashcan in the men’s bathroom.</p> <p>Students entering the testing center claimed that their professor allowed them to use unauthorized items.</p> <p>Students attempted to use their smartwatches during exams.</p> <p>A student brought in unauthorized notes to use during their exam and was caught tearing up the notes before exiting the testing center.</p> <p>A student wrote notes on their fingers and hands and tried to pass them off as tattoos.</p>
Unallowable assistance (n = 4)	<p>A student was taking an online exam and had an unauthorized adult in the room.</p> <p>A student hid air pods in their hijab and their cell phone in their jacket. They were caught calling someone else to get answers to the exam.</p> <p>A student asked to use Google Translate to assist with translation. When the testing center personnel declined this accommodation, it was reported that the student was attempting to use hidden notes for their exam.</p> <p>A student used ChatGPT to assist them on their exam.</p>
Tampering (n = 5)	<p>Students hacked the testing center scheduling system to schedule exams on unavailable days or times.</p> <p>Students purchased unauthorized test keys.</p> <p>Students did not have valid forms of ID.</p> <p>Students declined a room check when taking an online proctored exam.</p> <p>A student’s mother was caught attempting to use her daughter’s ID to take the exam for her.</p>
Accommodation errors (n = 1)	<p>Faculty were administering exams in their courses during the pandemic without considering student accommodations.</p>

Note. No novel testing irregularities were provided within the categories of monitoring errors, improper accounting of materials, other procedural errors, viewing, disclosure, unauthorized duplication, and failure to report.

After respondents provided their perception of each misconduct irregularity category, they were asked to select one from the dropdown list when prompted for the most common type at their testing center. Unallowable assistance (38%) and disclosure (28%) accounted for over half of the selections. Tampering, assistance, and unauthorized duplication were all less than 5% each.

Table 3 showcases examples of the most novel testing irregularities survey respondents have seen since the COVID-19 pandemic. These examples were sorted into the categories surveyed related to procedural irregularities and misconduct irregularities (e.g., use of unauthorized items, monitoring errors, assistance). To further illustrate some of the novel and interesting testing irregularities, one respondent wrote:

Wanding of all candidates with a metal detector wand is required by several test vendors, so we wand all candidates for all testing programs. One candidate slumped to the floor, grasped her chest, and began to hyperventilate. She said she was wearing a heart monitor, and the wand had caused her whole body to tingle with electricity. She declined medical attention at the time and proceeded to take her test. She went to the ER after she failed her test, and they found nothing wrong; she threatened to sue, called, and wanted to speak with my director, and wanted to know who to contact at the test company to complain. We never heard from her again.

Another novel example fell under the use of unauthorized items irregularity category. The survey respondent reported

that the “student had their phone hidden under their button-up shirt and had air pods on under their hijab. They were showing the questions to someone on the other end of the video call and getting the answers.” The survey respondent recalled that toward the end of the exam, testing staff noticed the phone’s camera lens showing through a hole in the student’s shirt.

Table 4 presents illustrative examples of the most frequent testing irregularities and places the directed content analysis into their respective TEA irregularity category. It was noted that six respondents perceived a frequent trend of other procedural irregularities, usually related to students providing valid forms of identification or proper authorization. In response to an open-ended question asking respondents to report the most common procedural irregularity at their testing center, a respondent said the following:

Candidates [appear] for a test without the proper authorization, specifically the state insurance exam, which requires proof of completion of a pre-licensing training course. Approximately 10–15% of examinees have not met this requirement and are totally unaware of the requirement; we turn them away. It is the cause of many tears, threats, complaints, much yelling, and petty insulting remarks made to staff.

Several ($n = 5$) responses also reported a consistent trend of students using unauthorized items, such as cell phones or physical notes, to get answers to exam questions. One respondent shared that their testing center had seen “a transition away from cell phone use back to paper notes being detected” and used an

example of physical notes being hidden in calculator lids.

Table 4

Examples of Most Frequent Testing Irregularities

Category	Example
Use of unauthorized items (n = 18)	One respondent reported students using an unauthorized calculator. Eight different respondents reported students using unauthorized notes. One respondent discussed how students were entering the testing center and claiming their professor allowed them to use items that the testing center did not approve. Three different respondents mentioned that students were using other forms of unauthorized technology, such as nail technology, glasses with cameras, and smartwatches, to assist them during their exams.
Use of unauthorized items (n = 5)	Five respondents reported students using unauthorized cell phones during their exams.
Tampering (n = 3)	One respondent described an instance where students hacked the testing center's scheduling system to schedule exams on days/times that were not allowed. One respondent reported that students were purchasing unauthorized testing keys. One respondent mentioned that students were using invalid forms of ID.
Unallowable assistance (n = 1)	Four respondents reported that students were caught receiving unallowable assistance on their exams.
Accommodation errors (n = 1)	One respondent reported that there were faculty members administrating exams without considering accommodations.

Note. No most frequent testing irregularities were provided within the categories of monitoring errors, improper accounting of materials, other procedural errors, viewing, disclosure, unauthorized duplication, and failure to report.

Finally, respondents were asked when academic misconduct was observed and what their testing center's primary response protocol was. A total of 62% ($n = 23$) of respondents said that test takers were permitted to finish, but they were made aware of the observed behavior, while 32% ($n = 12$) of respondents indicated the test taker was dismissed immediately. The least standard protocol, amounting to 5% ($n = 2$), was that the test taker was permitted to finish but not made aware of the observed behavior. However, it is important to note

that these procedures could very well vary depending on protocols established by the respective faculty member or testing vendor.

DISCUSSION

When developing the survey instrument, we adapted TEA categories for procedural (e.g., monitoring errors, eligibility errors) and misconduct-related (e.g., tampering, assistance) testing irregularities (TEA Test Assessment Security Team, 2019). We begin

our discussion below with implications from the descriptive statistics before covering implications stemming from our directed content analysis of the novel and the most common irregularities occurring after the height of the COVID-19 pandemic.

Frequency of Irregularities Pre- and Post-COVID-19

In our examination of perceived change in frequency of irregularities after the COVID-19 pandemic, we found that academic testing center personnel perceived an increase in the use of unauthorized items since the COVID-19 pandemic. We also saw a perceived higher incident rate of unallowable assistance. The use of unauthorized items and unallowable assistance is also perceived to have risen during the pandemic. However, tampering and viewing of testing material categories remained low post-COVID-19. These findings underscore the evolving landscape of testing irregularities in the post-COVID-19 era, highlighting the need for updated monitoring strategies and reinforced security measures to address the increased use of unauthorized items and unallowable assistance while maintaining vigilance against other forms of misconduct. Although we do not have all the answers on how to help prevent irregularities, we recommend that academic testing center administrators, along with higher education professionals, discuss and consider policy updates that can help avoid these categories of irregularities.

Testing Irregularities by Category Post-COVID-19

The use of unauthorized items in the misconduct category had the most examples provided by survey respondents for the most common testing irregularities ($n = 18$),

as shown in Table 4. It was also the category of misconduct that displayed the most frequently perceived increase (11%) since the COVID-19 pandemic. With this in mind, testing center personnel should consider additional training to lower the instances of students bringing unauthorized items into their testing center. Testing center personnel can use scenarios like the ones mentioned in our results and findings section to discuss best practices to mitigate risk or how testing center personnel can navigate these situations in real time. For example, testing centers might implement policies that require their personnel to do thorough searches of allowable items, such as calculators, to ensure there are no hidden physical notes.

Testing Policy Recommendations

To enhance the integrity and security of the testing environment, academic testing center administrators and higher education professionals should explore several proactive measures. For instance, institutions should invest in lockers (if not already present) and have students store their belongings due to the perceived increase in the number of unauthorized items entering the testing labs. Investing in lockers might help reduce the number of unpermitted items. Another recommendation for administrators to consider is having a testing staff member or custodial staff sweep the bathrooms in or near testing centers to check for phones and other unauthorized items that students might hide in these facilities (e.g., in or around trash cans, personal hygiene cans, under sinks).

Administrators can also adopt a policy of no restroom access during testing, which can help prevent students from accessing unauthorized individuals or items outside the testing center. Additionally, they

could educate themselves on how students utilize technology to cheat, as there may be situations in which students can access their phones or other forms of technology if they are not confiscated during the initial screening. This could involve training administrators on how to recognize when phones or other forms of technology (e.g., Google Translate, ChatGPT) are used during testing.

Finally, other measures could include training testing administrators on effective ways to clearly communicate prohibited items and the negative implications of cheating prior to students beginning their exams. However, faculty members or proctoring vendors might have their own policies regarding how to handle testing irregularities. Future research could include a survey of policies or training that proctoring vendors might offer testing administrators. Although these are just a few policy recommendations, implementing these strategies can help administrators reduce the risk of unauthorized items and assistance being used during exams, thereby ensuring a fair testing experience for all students.

Limitations

After evaluating survey response data, we note several limitations in our study. First, our study relied on the perceptions of a small number (85 responses, of which only 47 were complete) testing administrators on a single testing association listserv. This significantly limits the generalizability of our findings. It also may have limited the types of testing administrators (center types, institutions that can afford membership, etc.) and thereby biased the sample.

Another limitation of the study lies in the timeframe during which the survey was distributed. Since this study was

conducted in the summer, some testing administrators on nine- or 11-month contracts were not working, thereby resulting in a smaller, and perhaps different, sample. The use of the TEA's categories for testing irregularities may also be considered a limitation. We utilized this existing framework since multiple studies cited TEA as a comprehensive framework. Still, these categories were developed for the K–12 environment and may not be comprehensive in the context of higher education academic testing.

Finally, perceptions are not always reality. A key limitation is that we asked for the professional opinions of testing administrators, but these professionals may not always consider testing irregularities by the presented categories, and proximity bias may be present. For instance, a testing administrator who recently caught a student using unauthorized items may have that foremost in their mind and misjudge their perception of the overall scale of the irregularity category. Plus, the way in which we asked respondents to signal increases, decreases, or no changes to irregularity incidents may present internal validity challenges. Perceptions research may be biased by factors like irrelevant sensory information (often called sensory noise), how frequently something is observed, and even how our brains penalize errors in our estimations. These biases may impact perceptions of testing irregularities. Future researchers could potentially collect actual numbers of reported testing irregularities.

We also note that respondents may have found it difficult to conceptualize pre-pandemic and post-pandemic height levels. Survey language asked respondents to reflect on their perceptions of irregularities “following the height of the COVID-19 pandemic (03/2020),” but a respondent might not know which month after March

2020 to compare their perceptions to. For example, one respondent could have answered based on their perceptions of irregularities in April 2020, whereas another could have answered based on their perceptions of irregularities in September 2020. Future studies should clearly indicate which months respondents should base their responses on. With these limitations in mind, we consider this study an initial investigation into the topic, which may serve as a launching point for future research.

CONCLUSION

Our study sought to investigate and identify university-based testing administrators' perceived testing irregularity trends that have occurred post-pandemic, with a focus on academic testing centers in the United States. Although research exists on the topic of academic integrity and testing irregularities, our emphasis on academic

testing centers on university campuses attempts to address a gap in research. We employed a cross-sectional descriptive research design using a web-based survey with a postpositivist approach. This survey was distributed to a prominent testing association listserv. From the survey data received, there appears to be a perceived stability or increase in irregularities post-pandemic. While most respondents report a perception of specific irregularities as remaining stable or decreasing in frequency, they see a notable increase in the frequency of the use of unauthorized items (23%) and unallowable assistance (18%).

Administrators and higher education professionals should refer to these data to improve the training of testing center staff, update surveillance processes and practices, and refresh policies for this post-COVID era. The novel responses we received can be used as scenarios in training to make testing center employees aware of typical irregularities and how to mitigate them.

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APPENDIX A

Study Survey Instrument

Q1.1 U.S. College Academic Testing Center Survey

We are conducting a research study to learn more about characteristics and testing irregularities post-COVID-19 at U.S. college and university testing centers. Your participation in this study is voluntary. If you agree to participate and change your mind, you can withdraw for any reason. There are no penalties if you withdraw, decline to participate, or skip any parts of the study. If you agree to participate, you will be asked to complete an online survey about your testing center's setup, characteristics, and staffing along with details about testing irregularities (i.e., academic misconduct, issues) post the height of the COVID-19 pandemic. Your participation should take about 15 - 20 minutes. There are no risks to participating. Participants who complete this survey will be entered into a raffle for one of 50, \$20 electronic gift cards. You must be at least 18 years old to participate.

Would you like to participate in this research study? (I consent 1, I do not consent 2)

Q2.1 In this section of the survey, we will ask a series of questions in relation to the characteristics of your testing center. Please answer each question to the best of your knowledge.

Q2.2 Choose your testing center: (Survey respondents were shown a drop-down list of 278 schools. An 'other' option was also available to respondents which allowed them to write in their school if it was not on the list.)

Q2.3 Please tell us more about your testing center. (University 1, City 2, State 3)

Q2.4 Is your university a public or private university? (Public two-year university 1, Public four-year university 4, Private not-for-profit two-year university 2, Private not-for-profit four-year university 5, Private, for-profit two-year university 6, Private for-profit four-year university 7)

Q2.5 Please provide the estimated university enrollment for undergraduate students (Survey respondents were allowed to write in answers for Undergraduate Students [Full-Time, Degree Seeking] 1, Graduate Students 2, Total)

Q2.6 Which best describes where your testing center reports in the organization chart? (Provost/Academic Affairs 1, Student Affairs/Services 3, Business/Finance 4, survey respondents could also select Other 6 and write a different answer)

Q2.7 Please enter the capacity of seats per test type at your testing center. If you do not offer this type of testing, leave 0 entered (Paper-based Testing Seats 1, Computer-based Testing Seats 4, Both Paper and Computer-based Testing Seats 3, Total)

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- Q2.8 Please enter the number of testing center employees who work at the center on a regular, semesterly basis. (Non-student Full-time Employees 1, Non-Student Part-Time Employees 2, Student Part-Time Employees 3, Total)
- Q2.9 What types of testing occur at your testing center? Choose all that apply. (Academic Make-up Testing – Student make-up tests for an academic course 2, Academic Testing – Students enrolled in any courses for the given term 3, Accommodated Students Testing – Students with approved disability accommodations 1, Advanced Placement [AP] 5, Certification Exams [PRAXIS, ESL, TExES, SHRM, etc.] 7, College Level Examination Program [CLEP] 12, Graduate and Professional Schol Admissions Tests 6, International Baccalaureate [IB] 13, Language Other Than English [LOTE] 10, Placement Testing – Tests used for enrollment determinations at the college 4, Proctored Testing [Fee-based for Community, Distance Education Course, etc.] 8, survey respondents could select Other 11 and write in a response)
- Q2.10 Who is permitted to access your testing center services? Choose all that apply. (Prospective Students 1, Current Students 2, Alumni 3, Community Members/Non-Affiliates 4, High school students 5, Home schooled students 6)
- Q2.11 Please describe the desk configuration at your testing center in detail: Ex: Single cubicles with dividers vs. students at one long table, separated by dividers. (Survey respondents were allowed to write in their answer)
- Q2.12 Please select where students are allowed to store their belongings in the testing center. (In lockers or cubbies, outside of the testing center 4, In lockers or cubbies, inside of the testing center 5, The center does not provide storage for personal items 6)
- Q2.13 Is your testing center centralized or decentralized? (Centralized – only one testing center on your campus 1, Decentralized – more than one testing center on your campus 2)
- Q2.14 Do you use a proctor certification or training program? (No 4, Yes; Please indicate 5)
- Q2.15 Please provide a typical calendar-year budget estimate for your testing center in each of the following areas. Please enter numbers in USD, for example, \$25,000 (Salaries/Wages 1, Operating [software, supplies, computers, shredding, security, etc.] 2, Revenue 3)
- Q2.16 Please share the names of the software(s) used at your testing center: (Test Registration 1, Testing Resources Management [equipment management/tracking] 2, Electronic Surveillance: Cameras 3, Electronic Surveillance: Computer Monitoring 4, survey respondents were allowed to select Other 5 and write in an answer)
- Q3.1 In this section of the survey, we will ask a series of questions in relation to testing irregularities within your center. According to Texas Education Agency, a testing irregularity is defined as "any incident in the test handling or administration that leads to a question

regarding the security of the test or the accuracy of the test data." Please answer survey items below to the best of your knowledge with this definition in mind.

- Q3.2 In your professional opinion, have the number of testing irregularities increased, decreased, or remained the same at your testing center following the height of the COVID-19 pandemic (03/2020)? (Increased 1, Remained the same 2, Decreased 3)
- Q3.3 Perceptions of procedural irregularities following the height of the COVID-19 pandemic (03/2020). Please indicate your level of agreement (Survey respondents were presented with a table of TEA terms for procedural irregularities like Monitoring Errors, Accommodation Errors, Improper Accounting of Materials, Eligibility Errors, Other Procedural Errors and were asked to rank them on a Likert scale of Much Lower 1 to Much Higher 5).
- Q3.4 Which procedural irregularities category is most common at your testing center? (Monitoring Errors 1, Accommodation Errors 4, Improper Accounting of Materials 5, Eligibility Errors 6, Other Procedural Errors 7)
- Q3.5 Perceptions of misconduct irregularities following the height of the COVID-19 pandemic (03/2020). Please indicate if you believe the irregularities within the testing center and your perception of your larger campus/university. (Survey respondents were presented with a table of TEA terms for misconduct irregularities like Tampering, Assistance, Viewing, Disclosure, Unauthorized Duplication, Unallowable Assistance, Failure to Report, Use of Unauthorized Items and were asked to rank them on a Likert scale of Much Lower 1 to Much Higher 5)
- Q3.6 From your perspective, which misconduct irregularity category is most common at your testing center? (Tampering 1, Assistance 8, Viewing 9, Disclosure 10, Unauthorized Duplication 11, Unallowable Assistance 12, Failure to Report 13)
- Q3.7 From your perspective, which misconduct irregularity is most common at your university (in and outside your testing center)? (Tampering 1, Assistance 4, Viewing 5, Disclosure 6, Unauthorized Duplication 7, Unallowable Assistance 8, Failure to Report 9)
- Q3.8 Thinking back over the time from the height of the COVID-19 pandemic, please summarize the **most frequent testing irregularity** occurring at your center. Please include, in a deidentified way, who, what, when, where, how, similar in fashion to an incident report form. (Survey respondents were allowed to write in their own answer)
- Q3.9 Thinking back over the time from the height of the COVID-19 pandemic, please summarize the **most novel or interesting testing irregularity** occurring at your testing center. Please include, in a deidentified way, who, what, when, where, how, similar in fashion to an incident report form. Be specific with examples like spy glass pens, Google lenses, tattoos, etc. (Survey respondents were allowed to write in their own answer)

Q3.10 When academic misconduct is observed, what is your testing center's primary protocol? (Dismissed immediately 4, Permitted to finish, but student is made aware of the observed behavior 5, Permitted to finish, but student is NOT made aware of the observed behavior 6)

Q3.11 Who is academic misconduct reported to? Check all that apply. (Student's Professor 1, Academic Integrity/Academic Honor Office 2, Student Conduct Office 4)

Q4.1 At the end of the survey, you will have the opportunity to participate in a sweepstakes, where you could win one of fifty \$20 gift cards. The Southern Methodist University Testing Centers and Academic Integrity research team will oversee the drawing, ensuring fairness and transparency. Your chances of winning are 1 in 50, and if you are selected, you will be notified promptly via email with instructions on how to claim your electric gift card.

Q4.2 Would you like to be entered into the raffle for 1 of 50 gift cards? (Yes 4, No 5)

Q4.3 Please enter your email address. (Survey respondents were allowed to write in their email address)

APPENDIX B

Texas Education Agency (TEA) Test Security Policies and Procedures

Testing Irregularities as defined by the TEA: Incidents resulting in a deviation from documented testing procedures are defined as testing irregularities.

Procedural Irregularities as defined by the TEA: Procedural irregularities are less severe, more common, and typically the result of minor deviations in testing procedures. Examples include:

- **Monitoring Errors** (a test administrator left a room unmonitored while students were testing, a test administrator did not actively monitor students and did not detect the improper use of a dictionary or calculator, a test administrator did not verify that a student recorded his or her responses and accepted a blank answer document from the tester, a test administrator was not actively monitoring when a student went back to the previous day/s test and bubbled in answers he or she had left blank on the answer document, students were not prevented from using cell phones or any other electronic device to take pictures, share postings, or send messages)
- **Accommodation Errors** (a student was provided an unallowable accommodation, a student not approved for an accommodation was provided the accommodation, an unallowable and approved accommodation was not provided to a student, the district failed to get the required TEA approval for an accommodation)
- **Eligibility Errors** (An English learner (EL) whose parents had waived district English as a Second Language (ESL) services was not administered the assessment, a grade 9 student who is new to the district, currently enrolled in Algebra I, and eligible to participate in the EOC assessment was not administered the assessment)
- **Improper Accounting for Secure Materials** (testing personnel lost completed answer document(s), test booklet(s), or other secure materials, a test administrator did not return testing materials following each day's administration, secure testing materials were left unattended or secure online assessments were left open and visible, secure materials were not returned to the testing contractor by the published dates)
- **Other Procedural Irregularities** (Testing personnel did not use the test administrator manual or failed to read the test administration script verbatim as outlined in the resources, a student was permitted to test beyond the allowed time limit on an assessment or was not provided the full allotment of time to complete an assessment, personnel were permitted to participate in testing even though they had not been properly trained or did not sign the appropriate oath(s), a TELPAS writing collection was not submitted in accordance with required assembly criteria)

Misconduct, or Serious Irregularities as defined by the TEA: Serious irregularities constitute severe violations of test security or confidentiality and can result in the individual(s) responsible being referred to the TEA SBEC Enforcement for consideration of disciplinary action. Examples include:

- **Tampering** (i.e., altering student responses or falsifying holistic ratings or student responses)
- **Assistance** (i.e., directly OR indirectly assisting students with responses to test questions)
- **Viewing** (Viewing secure content before, during, or after an administration unless specifically authorized by TEA or by the procedure outlined in the test administration manuals)
- **Disclosure** (Discussing or disclosing secure test content or student responses)
- **Unauthorized Duplication** (Duplicating, recording, or electronically capturing confidential test content unless specifically authorized by TEA or by the procedures outlined in the test administration manuals)
- **Unallowable Assistance** (Receiving or providing unallowable assistance during the TELPAS calibration activities (e.g., taking notes, providing answer sheets, or verbally sharing answers), encouraging or assisting an individual to engage in the conduct described in the items listed above or in any other serious violation of security and confidentiality)
- **Failure to report** (Failure to report to an appropriate authority that an individual has engaged in conduct outlined in the items listed above or in any other serious violation of security and confidentiality)

Source reference:

Texas Education Agency Test Assessment Security Team (2019, November). *Test security policies and procedures* [Conference session]. Texas Association of School Administrators Texas Assessment Conference, Austin, TX, United States. https://teadev.tea.texas.gov/sites/default/files/20192020%20Assessment%20Conference_Security_Final_10-29-19.pdf