

LEADERSHIP AND RESEARCH IN EDUCATION



THE JOURNAL OF THE OCPEA

*Leadership and Research in Education:
The Journal of the Ohio Council of Professors of
Educational Administration (OCPEA)*



*Leadership and Research in Education:
The Journal of the OCPEA*

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***Leadership and Research in Education:
The Journal of the Ohio Council of Professors of
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Leadership and Research in Education: The Journal of the Ohio Council of Professors of Educational Administration

Vision:

Organic. Creative. Professional. Engaging. Accessible.

Mission:

Leadership and Research in Education: The Journal of the OCPEA offers an academic forum for scholarly discussions of education, curriculum and pedagogy, leadership theory, and policy studies in order to elucidate effective practices for classrooms, schools, and communities.

The mission of the OCPEA journal is to not only publish high quality manuscripts on various political, societal, and policy-based issues in the field of education, but also to provide our authors with opportunities for growth through our extensive peer review process. We encourage graduate students, practitioners, and early career scholars to submit manuscripts, as well as senior faculty and administrators. We accept quantitative, qualitative, mixed methods, and action research based approaches as well as non-traditional and creative approaches to educational research and policy analysis, including the application of educational practices.

Leadership and Research in Education: The Journal of the OCPEA is a refereed online journal published twice yearly since the inaugural edition in 2014 for the Ohio Council of Professors of Educational Administration (OCPEA). The journal will be indexed in the Current Index to Journals in Education (CIJE), and will be included in the Education Resources Information Center (ERIC) database.

Submitting to the OCPEA Journal

OCPEA Call for Papers and Publication Information, 2022:

Leadership and Research in Education: The Journal of the OCPEA accepts original manuscripts detailing issues facing teachers, administrators, schools, including empirically based pieces, policy analysis, and theoretical contributions. Submissions must include a one hundred word abstract and five key words. Send one electronic copy of the manuscript to the editor using MS Word as well as a signed letter by the author(s) authorizing permission to publish the manuscript. Additionally, a separate cover page must be included containing the article title, author name(s), professional title(s), highest degree(s) obtained, institutional affiliation(s), email address(es), telephone and FAX numbers. Only the article title should appear on the subsequent pages to facilitate a triple-blind reviewing of the manuscript. Submissions should be approximately 15-20 pages including references. Submissions must align to the standards of the *APA Manual* (7th ed.) beginning 2021. Submissions must be double-spaced, 12 point Times New Roman font with one inch margins on all sides, each page numbered.

Deadline for Volume 7 Issue 1 (Expected in August, 2022) submissions is **May 31, 2022.**

To submit materials for consideration, send one electronic copy of the manuscript and additional requested information to:

OCPEA Journal Editors at
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General Submission Guidelines

Leadership and Research in Education: The Journal of the OCPEA accepts original manuscripts detailing issues facing teachers, administrators, schools, including empirically based pieces, policy analysis, and theoretical contributions.

General Areas of Focus:

Advocacy

We seek manuscripts identifying political issues and public policies that impact education, as well as actions that seek to dismantle structures negatively affecting education in general and students specifically.

Policy Analysis

We seek analysis of policies impacting students, teachers, educational leaders, schools in general, and higher education. How have policy proposals at the state or national level, such as the introduction and adoption of national and state standards, affected curriculum, instruction, or assessment of leadership preparation and administrative credential programs?

Preparing Educational Leaders

We seek manuscripts that detail effective resources and practices that are useful to faculty members in the preparation of school leaders.

Diversity and Social Justice

We seek manuscripts on issues related to diversity that impact schools and school leaders, such as strategies to dismantle hegemonic practices, recruit and retain under-represented populations in schools and universities, promote democratic schools, and effective practices for closing the achievement gap.

Technology

We seek manuscripts that detail how to prepare leaders for an information age in a global society.

Research

The members of OCPEA are interested in pursuing the following: various research paradigms and methodologies, ways to integrate scholarly research into classrooms, ways to support student research and participatory action research, and how to use educational research to influence public policy.

For more information, contact OCPEA Journal Editor: Yoko Miura at ocpeajournal@gmail.com

***Leadership and Research in Education:
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A Note from the Editorial Board

Yoko Miura, Editor
Wright State University

Welcome to the Volume 6, Issue 1 of *Leadership and Research in Education: The Journal of the Ohio Council of Professors of Educational Administration* (OCPEA). In the tradition of the International Council of Professors of Educational Leadership (ICPEL), we offer this venue to regional researchers and practitioners to bridge the divide between them, providing research that is relevant, regional, and relatable and from a grassroots perspective. The collegial work and growth that produced this publication foreshadows our continued success both for the journal and OCPEA in general.

Leadership and Research in Education: The Journal of the Ohio Council of Professors of Educational Administration (OCPEA) is peer reviewed by members of the Ohio Council of Professors of Educational Leadership (OCPEA) and their colleagues. OCPEA is honored to bring forth this important and timely publication and hope not only to inform readers with our work, but also to inspire practitioners, graduate students, novice and seasoned faculty members to write for our journal. Part of our mission is to mentor beginning scholars through the writing and publishing process. We would appreciate if our readers would pass on our mission, vision, and call for papers to graduate students and junior faculty as well as to colleagues who are already experts in their fields.

OCPEA is pleased to present an eclectic mix of research and theoretical articles in this issue that are both timely and thought provoking for scholars and practitioners alike in the fields of education, curriculum and instruction, and educational leadership. The manuscripts in this issue detail many of the current controversies in the field of education as we currently experience them, including legal issues impacting school leaders, issues of funding inequities for public schools, and the intersection of schooling and politics.

We would like to acknowledge the many who have helped to shepherd *Leadership and Research in Education: The Journal of the Ohio Council of Professors of Educational Administration* (OCPEA) into a living entity. First, we thank our authors for submitting their work. Second, we thank our board of editors who worked tirelessly to create the policies and procedures and who took the idea of an ICPEL journal for the state of Ohio to fruition. Third, we wish to express
Leadership and Research in Education: The Journal of the Ohio Council of Professors of Educational Administration (OCPEA), Volume 6, Issue 1, 2021

gratitude to our esteemed panel of reviewers. Each manuscript goes through an extensive three-person peer review panel, and we are quite proud of the mentoring that has resulted as a part of this process. Fourth, we give a special thanks to the Board of OCPEA who has supported the vision and mission of *Leadership and Research in Education: The Journal of the Ohio Council of Professors of Educational Administration* (OCPEA). The support and guidance of the Board throughout the process of publishing this issue has been inestimable.

Finally, OCPEA is indebted to Brad Bizzell of ICPEL Publications for their direction and support. On behalf of the Board of *Leadership and Research in Education: The Journal of the Ohio Council of Professors of Educational Administration*, the OCPEA Board, and the general membership of OCPEA, we collectively thank the readers of this publication. We hope the information provided will guide readers toward a deeper understanding of the many facets of the fields of education, curriculum and instruction, and educational leadership. OCPEA hopes to continue to provide readers with insightful and reflective research.

Lessons Learned: The Stories of Three School Leaders

Brett A. Burton
Vanessa Rigaud
Jody Googins
Xavier University

Abstract

This case study aimed to look at the stories of building administrators during the coronavirus disease 2019 (COVID-19) Pandemic. The administrators' stories were examined through the lens of Getzels and Guba's (1957) Administrative Theory Framework and intended to reexamine principal preparation programs and professional development. The researchers conducted two interviews for each Midwest school administrator over three months. The first interview focused on the role of school administrators when schools closed due to COVID-19. The second interview focused on the role of the school administrators in the fall of 2020. The researchers discovered three dominant themes: school structure, new leadership roles, and relationships.

Keywords: COVID-19 Pandemic, narrative inquiry, Administrative Theory, school leadership, and school structure

The coronavirus disease 2019 (COVID-19) Pandemic significantly impacted our educational system during the Spring of 2020. The school system confronted many obstacles in its function, and administrators were forced to become flexible and adaptive to a changing leadership model. On March 12, 2020, Ohio governor Mike Dewine announced that all school systems must immediately close due to the COVID-19 Pandemic (Office of Governor Media, 2020). Governors from other Midwest states such as Illinois, Indiana, and Michigan elected to cancel school until further notice as the COVID-19 Pandemic presented unprecedented safety and health concerns to the general

population. As school districts scrambled to adhere to state authorities by closing schools, school leaders at the district and building levels were panicked, confused, and unprepared for a school system and structure that could no longer revolve around brick-and-mortar buildings and classrooms. The role of school administrators, specifically building principals and assistant principals, became undefined, uncertain, and unconventional.

This case study aimed to provide higher education, educational administration programs, and school superintendents a glimpse into the lived experiences of K-12 building principals and assistant principals as they attempted to lead their stakeholders in a virtual system and structure while incorporating traditional values during the COVID-19 pandemic. Inside perspective into the lived experiences yielded insight which allowed the researchers to ponder and examine future school administration preparation coursework and professional development for our school districts. The personal stories of these building administrators illuminated the researchers' understanding of the changes made to school leadership structures that have traditionally thrived and depended on educational stakeholders physically attending school. Ayers (2020) claimed that educators' lives are expressed through a series of stories and experiences where their professional and personal experiences are connected and coupled together. Just as "teachers' stories of their personal and professional experiences along with stories of young children have become critical devices in understanding the complex nature of a classroom" (Kim, 2016, p. 18), the complexities of a school system, especially during a time of crisis, can be examined through the lens of school administrators' experiences.

These parameters established multiple bounded systems where three different schools can

be explored through the lens of school building administrators' experiences. In this way, the study examined administrators' micro-level experiences as a way to understand the macro-level complexities of school systems as a whole over three months through a data collection process that involved interviews alongside artifacts gathered online (Creswell, 2005). Also, this study considered administrators' leadership through these case studies when schools pivoted to a virtual learning environment.

Theoretical Framework

The COVID-19 pandemic forced administrators to abandon conventional leadership roles to foster in-person learning. With their leadership being relegated to online means, administrators needed to incorporate unfamiliar leadership conventions in their supervision, organizational management, and communication with teachers, staff, and students.

To examine administrators' experiences during COVID-19, the authors reviewed their experiences using Getzels and Guba's (1957) model for Administrative Theory with a Constructivist/Interpretivist Worldview. The researchers analyzed the professional and personal experiences of the three school leaders as they navigated the abrupt closing and uncertain opening of their schools using a Constructivist/Interpretivist Worldview lens (Creswell & Creswell, 2018). The researchers examined the school principals' experiences and the impact COVID-19 had on their leadership roles that typically rely upon positional power granted through a hierarchal leadership structure. Administrative Theory promoted a systematic, orderly division of labor among school

stakeholders and followed a top-to-bottom pyramid model, allowing administrators to relish their very clearly defined job description.

The authors posited that the "administrative process" was based on the satisfaction found when an individual was able to meet the expectations of the "nomothetic role" and "idiographic need-dispositions" as the "social system" goals are met (Getzels & Guba, 1957). "Nomothetic" was defined as the "normative dimension of activity in a social system," and "idiographic" referred to the "individual, personality, and need-disposition" within a social system (Getzels & Guba, 1957). In a school system structure, building principals are required to carry out specific "nomothetic" duties such as supervision of staff and students, execution of teacher evaluations, coordination and facilitation of faculty meetings, delivery of morning announcements, coordination of school safety drills, supervision of curriculum delivery, and the implementation of standardized testing (Burgett, 2014). Darling-Hammond et al. (2007) found that role functions were relatively normal. Most university principal preparation programs trained principals in school leadership courses such as law, finance, supervision, and internships. Principal preparation programs need to consider training principals with "new ways" (Superville, 2020) to reconcile traditional "nomothetic" (Getzels & Guba, 1957) job roles that remain relevant and paramount in a virtual learning environment. Regardless of in-person or virtual learning, future principals need a foundational level of understanding in school law, finance, supervision, and instruction. Even though the "nomothetic" (Getzels & Guba, 1957) duties of a school principal shifted to a virtual environment, the need to prepare school leaders for a virtual learning environment

was paramount. A recent study by the Wallace Foundation discovered that effective school principals helped increase academic performance among students in reading and math by approximately three months (Grissom et al., 2021). As schools attempted to operate an unplanned, virtual learning environment, principals were left to navigate this new environment without the education and training to handle these changes.

Administrators understood their leadership role to be based on "goals and purposes," which were divided into "tasks to achieve the goals" (Getzels & Guba, 1957). The impact of COVID-19 dismantled the normal duties of building administrators such as teacher evaluations, supervision, conferences, school improvement plans, etc. Building principals and assistant principals were confused about what their role had become while teachers, students, parents, and other stakeholders were at home with prohibited access to physical interaction with their teachers and classmates. Therefore, the institution of school, role(s) served within a school, role expectations within a school, and the leadership of principals and assistant principals and the entire ecosystem experienced challenges that had never been seen before. Getzels and Guba (1957) did not anticipate public schools closing their doors due to a pandemic, nor did the scholars forecast the dependency schools might have on innovation and technology as the option of physically attending a classroom ceased to exist. Administrative Theory was applicable to this study to examine how the institutional roles of building administrators responded to the challenges created by the COVID-19 Pandemic. This study incorporated Getzels and Guba's (1957) Administrative Theory to examine how school leadership roles may need

to adapt to changing and challenging circumstances experienced during the COVID-19 pandemic.

Method

Through a qualitative case study methodology, the researchers examined the stories of three school building administrators in their leadership roles in three different educational levels—elementary, middle, and high school—in Midwest public schools. With the emphasis on school administrators' institutional roles, the researchers asked the following question: *What do administrators' narratives about their experiences during the COVID-19 pandemic of 2020 reveal about their leadership practices and positional responsibilities?*

Research Design

Through this case study analysis, the three researchers conducted an "in-depth analysis" (Creswell & Creswell, 2018) on how the COVID-19 Pandemic impacted the roles of three school building administrators at the start of the pandemic when schools were closed and during the midst of the pandemic when schools would traditionally open in August 2020. Also, the researchers considered the element of "time" (Creswell & Creswell, 2018) as relevant to the design because school administrators led schools when they were directed to close in March and reopen in August 2020 under different circumstances due to the "event" (Creswell & Creswell, 2018) of an existing pandemic. The researchers conducted two semi-structured interviews. The first interview focused on school building administrators' experiences when schools closed in March 2020 due to the pandemic and had six questions and two follow-up questions (Appendix

A). The second interview focused on school building administrators' experiences when schools opened or were supposed to open in August 2020 as the country was still in the pandemic. Because this is a case study descriptive research that involves two intensive, extended interviews, only three participants were selected, which is aligned with Salkind's (2009) discussion about selecting a sample for a case study.

This qualitative case study relied on non-random sampling techniques because this technique provided deep information about the subject (Salkind, 2009). The participants were selected from the target population based on purposeful sampling. The researchers selected a segment of the school administrators selected three districts in the Midwest region due to limited time and financial resources.

Although purposeful sampling led to a lack of generalization, it allowed the researchers to gather valuable informants and rich information (Salkind, 2009).

The logic and power of purposeful sampling lie in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry, thus the term purposeful sampling. Studying information-rich cases yields insights and in-depth understanding rather than empirical generalizations (Patton, 1990, p. 169).

Research Description

The researchers in this case study are three current educational assistant professors at a Midwest university located in an urban setting. In addition, the three researchers experienced educational facilities that were abruptly closed due to the COVID-19 Pandemic in March 2020. Two assistant professors, one male, and the other

female, racially identified as Black, Indigenous, People of Color (BIPOC). The third assistant professor racially identified as a White female. The assistant professors were required to finish instructing their students in a virtual learning environment and lived with the uncertainty about the campus opening in the Fall of 2020. Also, the three researchers have prior K-12 classroom teaching experience, and two of the researchers are former building principals. The White female assistant professor is faculty in Educational Foundations and Secondary Education. The second BIPOC female assistant professor is faculty in Elementary Education. The third BIPOC male assistant professor is faculty in the Educational Administration Department.

Participants and Recruitment Process

This research study took place in two Midwest U.S. states, and purposive sampling was used for the study. The rationale behind using purposive sampling was twofold. First, school building administrators, principals, and assistant principals were the "specific predefined group" (Trochim & Donnelley, 2008). Other school employees' groups were not considered for this research, as the focus was on school leaders. Second, the researchers desired to conduct school building administrator interviews in a timely fashion so that the leaders could provide current and in-depth narratives of the events and experiences that stemmed from closing and opening a school year due to a pandemic. Trochim & Donnelly (2008) claimed that "purposive sampling can be useful in situations where you need to reach a targeted sample quickly" (p. 49). Also, Creswell (2005) defined purposeful sampling as the internal selection of participants for a study that allows the researcher to learn and understand their particular life experiences.

Because the researchers sought a specific sample group, school building administrators, and considered the importance of securing a sample in a timely fashion, they attempted to secure a sample from their professional K-12 contacts serving in two different states. The first researcher (BIPOC male) contacted five school building administrators by email from one school district. The five school building administrators served in a school district located in an urban setting outside a large Midwest City. Two of the five contacted school building administrators agreed to participate in the study. One of the participants served as an elementary principal, and the other building principal served at a middle school. The second researcher (BIPOC female) contacted three school administrators serving in one urban school district in a Midwest City. All three building administrators declined participation due to the sensitivity of the topic and time commitments to work. The third researcher (White female) contacted four school building administrators serving in two different school districts outside a large Midwest City. Only one of the building administrators agreed to participate in the study. He served as an assistant principal of a large urban high school.

This purposeful sampling pulled administrators from three levels – elementary, middle, and high school. The final sample consists of three male administrators in their mid-30s who served in the public sector with a student population of more than 50% non-White. Superville (2022) discovered that almost 80 percent of all school principals in the United States are White, with approximately 6.8 years of administrative experience.

Therefore, all participants needed to have at least four years of experience in administration, school building administrator licensure, and a Master's in Education. The

three administrators were issued the following pseudonyms: Mr. Johnson, Mr. Lindahl, and Mr. Clarke. Table 1 illustrates the school demographics, where the three-building administrators served students from three different grade level bands. In addition, it was delineated that the schools in the Fall of 2020 were still providing instruction online during that data collection, and students were not in the building. Finally, a list of three school administrators was furnished through prior school administration relationships in the field, and letters were sent out inviting them to participate in the study with an Institutional Review Board (IRB) approved application.

Table 1

Participants' School District Demographics

	<u>School 1</u>	<u>School 2</u>	<u>School 3</u>
Pseudonym	Mr. Johnson	Mr. Lindahl	Mr. Clarke
Role	Principal	Principal	Assistant Principal
% of Students with disabilities	14.0%	14.0%	23.4%
% of Caucasian	23.4%	23.4%	11.2%
% of African-American	11.4%	11.4%	69.6%
% of Hispanic	59.4%	59.4%	6.3%
% of Asian/Pacific Islander	3.4%	3.4%	1.5%
% of multiracial	2.1%	2.1%	10.5%
% of Free-Reduced Lunch	51.4%	51.4%	94.9%

% of EL Learners	26.4%	26.4%	5.1%
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Note: This table illustrates the demographic data collected from participants' school districts. It is adapted from the Illinois State Board of Education (2020) and the Ohio Department of Education (2020). If enrollment was less than 10, the district did not calculate the district report card results.

Data Collection

The three administrators were examined as they transitioned from a traditional school structure to a remote and online model. All interviews were conducted and recorded using Zoom Video Communication. The BIPOC male researcher conducted all six interviews with the three school building administrators. For twenty years, this researcher served as an elementary, middle, and high school building administrator in urban schools. As a result, the BIPOC male researcher's years of experience provided expertise with the roles of school building leaders across three different school levels.

Participants reviewed and signed consent to have interviews recorded. The BIPOC male researcher conducted two virtual semi-structured interviews using Zoom with each administrator. The three administrators were issued the following pseudonyms to protect their identities: Mr. Johnson, Mr. Lindahl, and Mr. Clarke. They worked in three Midwest public schools. Mr. Lindahl was first interviewed on September 14, 2020, from 12 p.m. to 1:00 p.m., and the second interview occurred on October 6, 2020, from noon 12:40 p.m. Mr. Johnson was first interviewed on September 18, 2020, from 2:30 p.m. to 3:30 p.m., and the second interview was October 2, 2020, from 11:00

a.m. to 11:35 a.m. Mr. Clarke was first interviewed on September 30, 2020, from 11:00 a.m. to 11:55 a.m. and the second interview was October 14, 2020, at 10:00 a.m.

The first interview included eight demographic questions, followed by six open-ended questions (Appendix A) to incite the leaders to share their experiences as building leaders when their schools closed in the spring of 2020 (Glesne, 2016). Additionally, two follow-up questions (Appendix A) explicitly focused on their relationships with stakeholders- students, parents, central office, and teachers during the spring of 2020. The second interview with the school building administrators asked two open-ended questions, designed with the intent for leaders to tell their stories during the COVID-19 pandemic as school administrators from the fall of 2020 (Appendix A). The two interviews were within a couple of weeks of each other. They focused on building administrator positional responsibilities and primary concerns. All three school districts were remote in the spring and fall of 2020.

The interview audio recordings were transcribed using transcription software with additional verification by the researchers (Amberscript, 2021). Subsequently, the six transcriptions were uploaded to Dedoose Version 9.0.17 (2021), a web application for managing, analyzing, and presenting qualitative and mixed-method research data. The research software Dedoose was used to organize and code the multiple transcribed qualitative data interviews. The researchers made a concerted effort to mitigate personal bias, preconceptions, and beliefs in this study by independently utilizing dramaturgical coding to highlight themes (Table 2) and commonalities on Dedoose, which allowed emerging themes (Saldana, 2016). Dramaturgical coding is "appropriate for exploring

intrapersonal and interpersonal participant experiences and actions in case studies" (Saldana, 2016, p. 146). Also, dramaturgical coding provided the researchers with a coding method that assisted in understanding the "execution" (Saldana, 2016) of school leadership roles during the COVID-19 Pandemic.

Analysis

The frequency of each theme was measured, and the top three were selected. Some related themes such as "teacher online meetings" and "supporting from home office" were merged into one theme, referred to as relating categories in qualitative research. The researchers conducted three data sessions after individually coding all three participants' interviews. Saldana (2016) stated the coding process in qualitative research is "interpretive" and "collaborative" (p. 37). Group projects with multiple researchers coding data should "rely on intensive group discussion" to achieve "consensus" (Saldana, 2016). Therefore, the researchers worked to be reflexive and aware of personal bias by bracketing one another during the administrator interviews and consistently discussed "whether our understanding of the phenomenon" was skewed or altered by personal biases (Kim, 2016).

Member checking was used by restating the response with the three participants to ensure validity. Creswell and Miller (2000) state that validity in qualitative research can be achieved in member checking—ensuring how the participants understood their experience as school building administrators and their perspectives as leaders in this lived experience during the COVID-19 pandemic. This is "the most crucial technique for establishing credibility" in qualitative studies (Lincoln & Guba, 1985, p. 314).

Results

Three main themes were summarized in Table 2 in this research study: school structure, new leadership roles, and relationships. The first theme stated in the study addressed the shift in the school structure from the school building administrators' perspectives when schools abruptly closed in March 2020 and attempted to open in August 2020. Administrators created online school structures without the guidance and support from the central or district office. The second theme in this study covered the shifting or new leadership roles the three school building administrators claimed due to pandemics. Through online meetings, the three administrators attempted to support teachers, students, and parents with virtual curriculum implementation. The third and final theme of the study was relationships. School building administrators determined that their students struggled socially and emotionally, noticed increased anxiety levels, and normal communication practices among stakeholders were disrupted and fractured. The three school building administrators focused more on foundational relationship dynamics during the pandemic, as they were concerned about the safety of their students since the stability of attending a school facility in person was no longer an option.

Table 2*Coding Results from Blind Review of Data*

Researcher	1 BIPOC Male	2 BIPOC Female	3 White Female
Themes that emerged in blind independent coding	Theme 1: School Structure	Theme 1: School Structure	Theme 1: School Structure
	Technology	No directions from the district	Technology issues Hotspots Technology
	District office confusion	Limited technology	Bell schedule an online school
	Virtual bell schedule	Lack of online training	
		Online school w/ bell schedule	
	Theme 2: New Leadership Role	Theme 2: New Leadership Role	Theme 2: New Leadership Role
	Online support meetings	Teacher meetings online	Teacher meetings online
	Need professional development	Professional development support	Professional development for teachers with online instruction
	Theme 3: Relationships	Theme 3: Relationships	Theme 3: Relationships
	Communication with staff/faculty	Communication	Student basic needs concerns Relationships w/staff and faculty
	Shift to safety	Social/emotional	Anxiety
	SEL	Anxiety/confusion	Safety
		Student safety concerns priority	Communication

Note: This table illustrated the individual coding of the three researchers that included the three major themes and assigned subthemes under each one. The researchers, through data discussions, were in consensus on three dominant themes.

Theme One: School Structure

The three school building administrators expressed comparable statements that pertained to school structure. The challenges of conducting a normal school structure day when schools were closed challenged the leadership roles of the school building administrators.

Upon return in August of 2020, Mr. Johnson's school district, at the direction of the Curriculum Coordinators (a team of district administrators), returned to an online learning model. This online learning model was based on an in-person school structure: students met synchronously with their teachers at prescribed times in virtual "classrooms." Administrators in this district would simply join classroom Zoom sessions and observe teachers giving online instruction. Participant "Mr. Johnson" claimed:

"My role as an administrator was to start the day with a recording for all of our students using Facebook and Twitter with morning announcements. I tried to use encouragement and stay engaged with teachers throughout the day. My role as an administrator is to gather student Zoom identification, and I would coast throughout the day and interact with those classrooms. I find a lot of my job is supportive at the moment and offering recommendations as needed but more so being that voice of optimism and positivity."

Mr. Johnson talked further about the structure of his school during remote learning:

"So there wasn't a lot of bulk to what we did in the spring. In the fall, we have been back to school for four weeks now. Our curriculum coordinators at the district office put together a virtual curriculum based upon our typical curriculum

and created rigorous, structured schedules for the day. We call it asynchronous vs. synchronous learning. So morning time is synchronous before 11:30 a.m.

Teachers live with lots of small and whole group instruction. Toward the end of the morning, there will be some break-out groups, maybe with reading specialists and intervention specialists for tier three services and interventions. After lunch, it's more asynchronous. Teachers can post videos or options working with small groups or related services. There are five to six students at a time."

The synchronous, remote learning model that Mr. Johnson's school district utilized was similar to that of middle school principal Mr. Lindahl's school implemented. When asked about his role as a leader, Mr. Lindahl shared that previous to March 2020, his role included "control[ling] day to day operations, the figurehead of school, behind the scenes information gathering. Run day to day behind the scenes. Running the school." Mr. Lindahl reflected on how traditional schooling had changed in the wake of a pandemic. During summer 2020, many options were presented by the district office to building leaders in his district. There was a sense that they wanted to adhere as closely as possible to the traditional school structure previously operated before the pandemic. This meant the system integrated a traditional bell schedule based on seven, 48-minute class periods. The school district even attempted to maintain the typical structure of providing intramural sports and activities for students, even though students were online learning. Just as Mr. Lindahl and Mr. Johnson remained steadfast on maintaining traditional school building leadership roles in a virtual school structure, the third school building administrator, Mr. Clarke, experienced similar challenges in his role.

Mr. Clarke's COVID-19 story focused on schools' traditional structure that encompasses providing students with positive relationships, much-needed free-reduced meals at breakfast and lunch, and extra-curricular opportunities. He stated that eliminating a structured school system that includes athletics and other extra-curricular activities provides students with the unstructured time that is not beneficial to their education and future.

These public school administrators' stories demonstrated that students, faculty, and administrators are relying on a traditional school model and system. The COVID-19 pandemic has exposed the strengths and weaknesses of traditional school structures and the inequity in different schools and districts. For school leaders, navigating learning in an online world was unpredictable, at best. School leaders' roles, the structure of how schools operate, and the ability to connect with both teachers and students were impacted by the COVID-19 pandemic in ways that school leadership scholars could have never anticipated or possibly prepared to address. Because the responsibilities of the three school leaders shifted within the school structure, they discovered that their administrative tasks and job responsibilities during COVID-19 altered their roles and evolved to something new.

Theme Two: New Leadership Role

All three school building administrators claimed their leadership roles had changed into something unique to their prior experiences before the COVID-19 Pandemic. The second theme in the case study determined by the researchers was new leadership roles.

After students and faculty were sent home in March, Mr. Lindahl's role pivoted to helping teachers with new technology. He emphasized supporting teachers with "develop[ing] plans and creating a big class." He stressed that he wanted teachers to know that "we are invested, and we could help them out if they had questions and got buy-in." The administrators' roles transitioned from leading a school and keeping the day-to-day operations intact to coaching veteran teachers in using technology to communicate and deliver curriculum to students. Mr. Lindahl's statement provided evidence that he had to shift his job responsibilities to support his teachers with new technology. In addition, Mr. Lindahl expressed how his leadership role had shifted with decision-making. He expressed that his central office superiors provided him autonomy by allowing him to give options to his faculty about their workday. This was not the case before the COVID-19 Pandemic. The level of autonomous decision-making was a shift from his building-level leadership practice before the pandemic, and Mr. Lindahl was a bit leery about the change. Typically, principals in his school district before COVID-19 had little autonomy to determine how a teacher's workday should be structured and had given little thought to safety from the lens of a virus. Public school teachers have contract language negotiated by their union to provide parameters for structuring a teacher workday. Safety concerns have historically focused on security. With the pandemic, Mr. Lindahl faced decision-making he had not experienced before. He experienced uncertainties regarding his ability to make decisions. He had to consider that the consequences of his decisions could result in a teachers' union grievance. Mr. Johnson also found his leadership role had shifted during this time.

Mr. Johnson shared that even the purpose of his communication shifted; his focus for a time was solely on technology and access to technology for students and teachers, especially in the spring of 2020 when the COVID-19 pandemic initially forced school closure. Participant Mr. Johnson stated:

"I would say our biggest priority was to make sure that we were able to get kids their chrome books... They were going to need their devices. They normally would get them in the morning and then turn them in the afternoon. We had about a week-long process with families coming in, and that had to sign out a Chromebook and pick them up. I know I had to get families' hot spots... that didn't have Internet. This was something I wasn't prepared to do, but we had no choice. We went to the neighborhoods and set them [hotspots] up in neighborhoods. Our biggest priority was getting kids devices and internet access, so they [could] continue to work at home."

Based on Mr. Johnson's statement, his greatest concern as a school building leader during COVID-19 was to ensure that students had technology devices with functioning Internet. The administrative tasks of assigning laptops are typically reserved for school building technology specialists or library media center staff, not a building administrator responsible for areas aligned with teacher evaluations, leading school improvement plans, and managing the school building. The third building school leader that experienced similar changes in his leadership role was Mr. Clarke.

Mr. Clarke was the only high school building administrator in the sample and shared that his role had significantly changed because administrators were required to

attend more central office meetings with increased involvement. This was not his experience as an Assistant Principal before COVID-19. Participant Mr. Clarke claimed:

"Really we have been more involved with central office with a lot more meetings. Maybe it has something to do with the change in leadership or just the fact that everybody is out of crisis mode. Personally it's been hard because we have not met all the 9th graders yet."

Mr. Clarke's statement demonstrated that his district experienced a change in leadership at the central office and served as a school leader during a pandemic. Another change Mr. Clarke experienced as a school building administrator in his leadership role was distributing Chromebooks and orienting students for a few weeks. Participant Mr. Clarke stated:

"We have an orientation for kids where they picked up Chromebooks and got information on Google classrooms and Kickboard. We ran that for a couple of weeks as well. And that was face to face. Not meeting new kids has been a struggle. Normally, we would do all this [technology distribution and orientation] in first-period classrooms on the first and second day of school. Admin. [Administrators] had to do it this fall for a while because we didn't know what was going to happen."

Mr. Clarke's role had succumbed to an increased presence at central office meetings and technology distribution and orientation. Under normal circumstances in his traditional leadership role as a school building administrator, Mr. Clarke would defer this responsibility to teachers and technology specialists. However, Mr. Clarke's new

leadership role responsibility required his leadership to shift from distributive leadership to delegating technology dissemination and orientation to teachers and technology specialists who served in schools, adding it to his professional role out of necessity. Because the responsibilities of the three school leaders shifted within their leadership roles, they concluded that the COVID-19 Pandemic impacted relationships among students and teachers.

Theme Three: Relationships

All three school building administrators stated that their relationships with students, teachers, and the school community had changed due to the COVID-19 Pandemic. The third theme in the case study that was determined by the researchers was relationships. The three school building leaders shared that students' mental health, basic needs, and safety were all negatively impacted by not having physical access to school and the support network of teachers and administrators. In addition, the three school building leaders attempted to sustain or establish student relationships by communicating through videos or opening the building for a short time for students and families to secure food. As indicated in the student report card demographics in Table 1, over 50 percent of students qualified for Free-Reduced Lunch (FRL). Mr. Clarke, the sole high school administrator in the study, captured the absence of these positive relationships among administrators, teachers, and students. Participant Mr. Clarke expressed:

"The most important part is the emotional connection. Many of our students have great relationships with staff in the building and not having them in person every

day is a crisis. We provide so much to families. There is a kind of loss from people when they are not in the building. [Things like] the food pantry on Fridays with kids getting food. With COVID, I don't think it was utilized as much... The relationship piece is very hard for our kids and families. Coming in feeling safe here every day for 8 hours, and I think that has been a hard transition for everyone. Kids and teachers are saying they can't wait to get back. They are missing teachers... A lot of our kids play sports, and when all that was canceled a lot of our senior kids missed out on their senior year, as they have good relationships with the coach. It gives them something they can do and make them feel part of something. Now kids were sitting home all night and hanging out with friends, and sports gave structure. Our kids lost a lot of that, and we worry about them not having that safe place to be."

Another school building administrator, Mr. Johnson, claimed that his relationships with teachers were impacted because the information from central office was typically last minute and constantly changed. Participant Mr. Johnson voiced:

"It was difficult because the information was a wait-and-see process [referring to the possibility of returning to campus]. So a lot of times, I didn't have the information until the last second [referring to the remote learning plan]. That affected relationships because there was a lot of 'I don't know.'"

Mr. Johnson felt he was at a loss because he was not provided with the necessary information his teachers and school community expected from their school building

leader. Then, in the early fall, Mr. Lindahl provided insight into how the relationships between teachers and students shifted because of the pandemic.

Participant Mr. Lindahl shared, "Student wise relationship get to know kids and know what is going on with them the first couple of days... for staff they're use to daily personal action and now teachers are worried about compliance with kids, setting up screen, logging in at certain times, which has set up stagnant virtual class. Turn on your screen. Kids are used to talking to one another. Working through it... Kids talking to teachers."

Mr. Lindahl's statements inferred that teachers commonly build relationships among students during the first few days of school in the fall. However, the COVID-19 pandemic eliminated the initial relationship and rapport-building practices typically among educators focusing on technology and compliance.

These public school administrators' stories indicated that students, faculty, and administrators rely on a traditional school model and system. The COVID-19 pandemic has exposed the strengths and weaknesses of traditional school structures and the inequity in different schools and districts. For school leaders, navigating learning in an online world was unpredictable, at best. School leaders' roles, the structure of how schools operate, and the ability to connect and communicate with both teachers and students were impacted by the COVID-19 pandemic in ways that school leadership scholars could have never anticipated or possibly prepared to address.

Discussion

The three school building administrators in this research shared their experiences when schools closed in March 2020 and attempted to reopen in August 2020. The findings were significant to educational leadership research because the researchers examined the challenges school building administrators encountered when the absence of a traditional school environment was eliminated. The researchers found that the current roles of school building administrators remain aligned to the roles discussed in Getzels and Guba's (1957) Administrative Theory. The researchers identified the ways the COVID-19 Pandemic exposed the weaknesses in school leadership preparation by highlighting the ineffectiveness of building administrators to lead in a virtual and unpredictable learning environment. The researchers contend that school leadership preparation programs must reimagine graduate-level courses in Educational Leadership by reframing and redefining administrative roles in virtual learning environments.

School Structure

The first predominant theme was school structure. Getzels and Guba (1957), in their Administrative Theory, state "institutions are structural" (p. 425), based on a "hierarchy of relationships" (p. 424) that exists to meet the goals of the organization. The purpose of a building administrator, within the structure of the institution of school, is to provide leadership and supervise people in specific roles, specifically teachers (Getzels & Guba, 1957; Dornbusch et al., 1996). More importantly, building administrators in the structural system of schooling are held accountable by superiors for the academic achievement of their students.

When the administrators in this study experienced the chaos that the COVID-19 Pandemic brought to their school systems, they attempted to hold on to structural aspects like announcements and encouragement. For example, Mr. Johnson, an elementary principal, stated when his students and teachers pivoted to remote learning, he would still do morning announcements even though students and teachers were in a structural education environment that was completely virtual. The principal's actions were well-intentioned; however, the structure of school had been reduced to virtual classrooms, requiring the building administrators to make decisions suited for new environmental demands. Another example of building administrators clinging to the school structure was mentioned earlier in the stories section of this study. The middle school administrator's building maintained the bell schedule structure while their students and staff were in a virtual environment. Again, building administrators were grasping to integrate face-to-face structural practices into a virtual learning structure that did not seem to fit. As Getzels and Guba (1957) stated in their Administrative Theory Framework, "institutions are normative" with "role expectations" for each stakeholder in the organization (p. 425-426). The building administrators in this study inserted the standard structural "norms" of their building administrator positions as a default mechanism because they were ill-prepared to lead their schools in a virtual setting.

Based on the experiences of the three-building administrators during COVID-19 and their responses to hold on to the traditional school structure, school districts must consider and seek ways to prepare building leaders to effectively lead schools if and when schools close in the future. For building administrators to effectively lead when a

school structure pivots from in-person learning to a virtual model, they must have the appropriate training to lead schools during a crisis.

Kaul et al. (2020) examined school principals' approaches to crisis management during COVID-19, and their findings revealed four key aspects: a priority on basic needs for staff and students, technological needs to access teaching and learning, need for multimodal modes of communication, and instructional focus on social-emotional learning (Kaul et al., 2020). Traditionally, school district induction plans for new administrators and principal preparation programs train principals on the nuts and bolts of school leadership, specifically "managing personnel and resources strategically" and "engaging in instructionally focused interactions with teachers" (Grissom et al., 2021, p. 75). Because educational stakeholders, including teachers, students, and administrators, have experienced a pandemic crisis that has closed schools, school districts and university principal preparation programs should consider integrating courses that help prepare future and current administrators with developing skills revolving around an instructional focus on social-emotional learning, technology needs to support teachers and students, as well as different modalities to communicate with all stakeholders (Kaul, et al., 2020). Based on the experiences of building administrators during COVID-19, it is paramount to discuss and review the role of a building administrator and what we learned from the study.

New Leadership Role

The second theme found in this study was the new leadership role. In Getzels and Guba's (1957) Administrative Theory, organizational "roles" have specific "normative

rights and duties," otherwise known as "role expectations" (p. 426). Under normal circumstances in a school setting, building principals' roles and duties focus on teacher instructional practices, managing personnel, forming school improvement goals, examining and discussing student achievement data, facilitating professional learning community meetings, communicating with faculty and students, supervision on the playground or hallways, completing teacher evaluations, etc. (Burgett, 2014; Sebastian et al., 2018; Grissom et al., 2021). The three building administrators discovered the challenges due to the COVID-19 Pandemic. Their building administrative roles became unclear and unfocused as teachers and students conducted school in a virtual environment at home. As a result, administrators had to take on new leadership roles, specifically roles that were aligned to working as technology specialists.

When Mr. Johnson discussed the priority of providing students with Chromebooks, he acknowledged that it was a new priority in his evolving role as administrator. Mr. Johnson's statement demonstrated that his role as an administrator was to ensure that students had access to laptops and an Internet connection. Mr. Johnson realized that his traditional leadership role that commonly revolves around teacher induction, evaluations, school improvement, etc., was reduced to a position of meeting the basic technology needs of students at their homes. Based on the evidence, Mr. Johnson could not fulfill his "normative" principal tasks aligned to his role as a building administrator (Getzels & Guba, 1957). Now that school institutions have had the experience of being thrust into a virtual school setting without physical interaction in a

brick-and-mortar facility, it is paramount to reimagine the role of building administrators in a school environment.

School institutions must formulate an action plan that encompasses and defines the role of a building administrator in a virtual environment and support them in leading a building during a crisis, such as a pandemic. Starr (2020) believed that school district superintendents must take the lead, and during these times of crisis, they must direct principals to assemble school personnel to identify students that are lacking in basic needs. Next, Starr (2020) stated that principals, teachers, and other school personnel would have to revamp curriculum and learning plans for teachers to deliver in a virtual model. Because of the COVID-19 Pandemic, school organizations have that the role of the principal will have to be flexible and have the capacity to pivot from physical to virtual gatherings. For building administrators to pivot from a physical to virtual school environment successfully, they will have to establish positive conventional and unconventional relationships with all stakeholders.

Relationships

The third theme in the study was relationships. As mentioned in the school structure section of the findings, the school structure is based on a "hierarchy of relationships" (Getzels & Guba, 1957, p. 424). For building administrators to accomplish their purpose for the school organization they must have the leadership capacity to build relationships with their stakeholders. Building administrators "develop and interact with people in and around their school: teachers, support staff, parents, and the broader community" (Grissom et al., 2021, p. 56). When principals or administrators interact with

their constituents, this simple yet important aspect of their positions may result in creating a "positive relationship" with teachers (Grissom et al., 2021, p. 56). During the COVID-19 Pandemic, the building administrators and teachers relied on their established relationships with students that were created by face-to-face interaction during normal school structured days. As Mr. Clarke stated during his interview, "The most important part is the emotional connection. A lot of our students have great relationships with staff in the building, and not having them in person every day is a crisis."

Since the inception of the COVID-19 Pandemic, individuals serving in educational leadership or classroom roles have learned that when school pivots to a virtual environment, things dramatically change, and institutional roles become blurred. In a physical school environment, administrators can create and foster existing relationships by performing classroom walk-throughs or regular observations, walking the hallways during a student transition period, making small talk with teachers and students, and hosting collaborative meetings with staff professional learning communities. However, when educational stakeholders cannot gather due to a crisis, how can school administrators, teachers, and students continue to foster or sustain these critical relationships that many students need to thrive? Equally as important, administrators may want to consider creating a virtual onboarding and induction system for students and teachers that will establish a relationship before clearance is given for all stakeholders to return to school in person. Therefore, building administrators may want to expand their repertoire of relational skills to foster positive relationships with their stakeholders when the school environment pivots to online learning.

Franklin (2020) believed that school administrators could increase their presence in virtual classrooms to be seen by teachers and students. Building administrators should become creative with communication by sharing pictures via social media, hosting a virtual coffee with teachers and families, and virtually sharing excellent student work. Finally, Franklin (2020) emphasized that building administrators must set realistic expectations for teachers that are virtually instructing students. Building leaders that can establish clear expectations with virtual learning, specifically encouraging teachers to unplug once they are finished instructing to help alleviate teacher burnout. School leaders in a virtual learning environment looking to enhance and sustain positive relationships with their stakeholders will demonstrate that relationships matter.

Limitations and Conclusion

The researchers in this case study identified substantive data and detailed descriptions of the cases; however, their findings did not represent all White male school building administrators in predominantly schools serving students of color in the Midwest during the COVID-19 Pandemic school shutdown in March 2020. Still, the researchers can apply critical analysis and inductive reasoning to provide their understanding and shed light for further research (Stake, 2000).

The three-building administrators in the study were representatives from two different Midwestern states and three school levels: the elementary, middle, and high school, which are limitations, as the stories from the building administrators only provided a glimpse into their lives during an abrupt school closing in the spring and a questionable reopening in the fall. Perhaps this research would have benefited from an

ethnographic study that would allow the investigators to truly embed themselves into the administrator's experiences with closing and opening a school year during a pandemic. Another limitation of the study pertains to reducing bias as investigators. All three investigators have served in K-12 school districts in leadership and teaching positions across the elementary, middle, and high school levels and have also been affected by the pandemic as current university education professors. Hence, the investigators' backgrounds may have "shaped" the interpretation of the interview responses. However, every effort was made to reduce bias through reflexive awareness (Creswell & Creswell, 2018). The researchers individually coded the information, created themes, and discussed and debriefed during regularly scheduled meetings. The regularly scheduled meetings provided the researchers time to compare data and come to a consensus if two of the three researchers agreed on the appropriate theme.

The researcher's understanding of how the COVID-19 Pandemic has impacted building administrators across three levels of schooling has increased to a certain degree. The school leaders provided a unique perspective into their experiences navigating their leadership role in uncharted territory. District offices provided minimal support and direction, leaving the building administrators to lead their students and teachers without action or strategic plans. Unpreparedness for leading a school during a pandemic forced the administrators to rely on skills that revolved around a physical interactive school structure and traditional leadership practices. As research has shown, "Threat and stress make people more determined to preserve their social structure and traditions" (Pounder, 1998, p. 102). As school districts reflect on the experiences of COVID-19 on school

leaders, it is time to reinvent, reimagine, and recreate building graduate-level courses and professional development for current administrators that will equip them to lead when the next crisis takes place effectively.

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Appendix A

A Case Study on the Experiences of Administrators During COVID19

Interview Script

Demographic Questions (Part A)

1. What is your title and role? _____
2. How many years have you been an administrator? _____
3. What grade levels attend this school? _____
4. What is the enrollment size of this school? _____
5. What is the Racial Demographic of this school? _____
6. What percentage of students attending this school have IEP's? _____
7. How many teachers are employed at this school? _____
8. What is your racial background? _____

Interview Questions (Part B)

Interview 1

- Q1. Can you describe your role as an administrator at ____ prior to March 2020?
- Q2. Thinking back to mid-March 2020, can you tell me about your concerns and challenges about curriculum implementation among teachers?
- Q3. Tell me about the early days of remote learning for you. What were your priorities as your students and teachers transitioned? Expand on how you might have been emotionally impacted. What were your primary concerns at this time? (Can you describe the process you used to manage this transition?)
- Q4. Tell me about a particularly challenging experience and/or a particularly rewarding experience with remote learning in the spring of 2020.
- Q5. Can you describe how your personal/home life might have been affected and/or altered due to the abrupt change?
- Q6. Can you describe the process you have gone through to prepare for this school year?
- (Follow-up with appropriate probing.)*
- Q7. Can you describe your relationships with students, parents, central office, and teachers during the spring of 2020?
- Q8. Can you describe your relationships with students, parents, central office, and teachers during the summer/fall of 2020?

Interview 2

Q9. You said in the spring your primary concern was _____. Can you talk about your primary concerns now as you navigate the fall?

Q10. Can you describe how your teacher evaluation practices have been affected and/or altered due to remote learning, or the potential of moving to remote learning?

Exploration of the Relationship between Professional Development Quality and Teacher Sense of Self-Efficacy in Urban Ohio Elementary Schools

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Abstract

We framed the activities found in professional development as a form of enactive experience hypothesized by social cognitive theory to influence efficacy beliefs. This enabled us to employ multiple regression to test the relationship between teachers' perceptions of professional development quality and their sense of efficacy for teaching. Data were collected from a sample of 354 teachers serving in traditional urban public and charter school elementary schools in Ohio. Results indicated that type of school was a leading predictor of professional development quality. Additionally, results indicated that, when using multiple regression to control for teacher demographics, professional development quality was positively associated with teachers' sense of efficacy. Because teacher efficacy beliefs are positively associated with the use of effective teaching practice, these findings suggest the need for school districts to attend not only to the provision of professional development but also the quality of the experience their teachers receive.

Key Words: Professional Development Quality, Teacher Self-Efficacy Beliefs, Social Cognitive Theory, Charter Schools

Introduction

In an era of high-stakes accountability, school districts nationwide continue to pursue professional development (PD) as a strategy to improve teacher practice and student outcomes. Burchinal et al. (2002) suggest that some teacher PD interventions

have been linked to higher instructional quality. Research also shows that PD can impact teacher effectiveness more positively than a teacher's acquisition of a graduate degree (Early et al., 2007). A casual reading of findings such as these encourage school districts to continue their sizable investments in PD. Indeed, in a study conducted by The New Teacher Project (TNTP) (Jacob & McGovern, 2015), school districts were reported to spend an average of nearly \$18,000 per teacher, per year on PD-related activities. Some districts even reported spending more on PD than on transportation, food, and security. Additionally, teachers spent approximately ten percent of the school year participating in PD-related activities (Jacob & McGovern, 2015). Investments of this scale reflect the widespread belief that PD is essential to teacher and student learning and necessary for educational improvement.

Despite its nearly ubiquitous presence in American education, teacher PD does not always achieve the positive outcomes it is presumed to cause. Some actually argue that the improvements expected from PD are a “mirage” or a destination imagined but never reached. For example, TNTP's study (Jacob & McGovern, 2015) found that despite the massive investment districts make in PD, most teachers do not appear to improve substantially from year to year as a result. Similarly, research by Jacob et al. (2015) found that a large-scale research-based PD intervention delivered to principals over two years did not lead to observable change in principal leadership or the practice of teachers in the schools of principals who received the PD. These findings present a problem of practice that asks what characteristic of teacher PD might explain why some PD makes a difference to teacher practice and student achievement while other PD does not. It should

be noted that we are aware of the distinction between the terms professional development and professional learning but because of the predominance of the term Professional Development (PD), we chose to use it instead so that those with an interest in it will have a greater likelihood of learning from the knowledge generated here. We address this question by introducing the notion of quality as an essential feature of PD that varies widely across the range of formal learning experiences afforded to teachers. Variability in PD quality, in turn, could explain why some teachers find PD to be a true learning experience worthy of their time rather than a break from their daily routines or an opportunity to grade papers or work on lesson plans. Further, we argue that the quality of PD teachers experience constitutes a form of enactive experience, which social cognitive theory postulates has the strongest impact on teachers' efficacy beliefs (Bandura, 1997). We focus on teacher efficacy beliefs not only because they can logically be influenced by the quality of the PD teachers receive but also because they are key predictors of effective teaching practice (e.g. Moore & Esselman, 1992; Ross, 1992; Tschannen-Moran, Hoy & Woolfolk Hoy, 1998).

Based on the above, the central focus of this study is to explore whether variability in the quality of the PD teachers receive is related to their sense of self-efficacy for teaching. To answer this question, we first confirmed the validity of the measures of PD quality and teacher self-efficacy beliefs employed in this study. Next, we asked whether teacher-level experience, age, race, and education level predict teachers' reports of PD quality. Third, we tested our hypothesis, which was the quality of the PD in which teachers participate is positively and significantly related to the strength of their

self-efficacy beliefs. We turn next to a review of theory and research on PD quality and teacher self-efficacy beliefs.

Professional Development Quality

Researchers have suggested that when effective PD is provided to teachers, positive transformations in classroom quality and student outcomes can occur (Landry et al., 2009; Burchinal et al., 2002). To understand how this occurs, we turn to the characteristics and features of teacher learning activities found in the literature describing the quality of PD. Scholars frequently equate quality professional development with effective professional development. For example, Neuman and Cunningham (2009) defined effective professional development as activities that increase educators' knowledge in ways that improve instruction and raise academic achievement for children. Landry et al. (2009) described PD as effective when it is characterized by adult learning components such as a) opportunities that allow adults to be intellectually engaged in the subject matter; b) learning experiences situated in authentic contexts; and c) opportunities to engage in collaborative problem solving and practice specific skills. Additionally, others define professional development to be effective when through active learning it leads to true change in practice as opposed to traditional passive forms of learning that are less likely to manifest in sustained behavioral change (Gulamhussein, 2013). In addition, Landry et al. (2009) described professional development as effective when it includes: small group interactive learning, opportunities for practicing specific skills (role playing, developing lesson plans etc.), side by side in-classroom coaching and involvement of all levels of program staff. Similarly, Darling-Hammond et al. (2017)

described a targeted content focus, active learning components, opportunities for collaboration, alignment to curricular goals modeling of best practices as core features of effective PD. Finally, Bray-Clark and Bates (2003) and Demonte (2013) suggested that to be effective, PD should be aligned with curricular goals and assessments, sustained over time and job-embedded, focused on core content and active learning, and fueled by serious collaboration and coaching. We argue that the degree to which PD achieves these goals positively influences the levels of teachers' efficacy beliefs.

Teacher Self-Efficacy Beliefs

Researchers report that a teacher's sense of efficacy has a strong positive impact on instructional practice and student achievement (Goddard, Hoy, & Woolfok Hoy, 2004; Goddard & Salloum, 2011) combined competing theoretical models to argue that the degree to which teachers feel efficacious is a function of their cognitive processing of both the difficulty of the teaching task they face and their sense of professional competence, factors that can be influenced by the quality of the PD to which teachers are exposed. Tschannen-Moran et al. (1998) defined teacher self-efficacy as a teacher's "belief in his or her capability to organize and execute the courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 233). We turn next to the factors individuals consider when making a self-efficacy assessment.

According to social cognitive theory, there are four specific forms of efficacy-belief shaping information that individuals consider when assessing their sense of efficacy to successfully accomplish a specific task in a given context: *enactive experiences*, *vicarious experiences*, *verbal persuasion*, and one's *somatic and emotional*

states (Bandura, 1997). *Enactive experiences* are those that involve an individual's lived experiences and the degree of success characterizing them. Bandura (1997) described enactive experiences as the most powerful form of efficacy belief-shaping information because individuals tend to make strong connections between prior firsthand experience and their sense of how well they expect to do in pursuit of similar goals in the future. This is closely linked to how adults learn and predicated on knowledge gains that serve as resources for later learning (Knowles, 1984). *Vicarious experiences* are those that involve learning from others. While they inform individuals' assessments of personal capability, they are less powerful than enactive experiences because individuals may hold doubts about how well they can successfully adopt behaviors modeled by others. *Verbal persuasion* refers to encouragement from others that persuades one to make positive attributions about self-capability. Put simply, whether a leading athlete will recover from a poor performance rests not only in the firsthand experience of failure but also in the cognitive processing and meta-analytic routines in which one engages to make sense of those experiences; sometimes, encouragement from others can persuade individuals to make positive attributions. *Somatic and emotional states* represent the physical and emotional responses associated with thinking about performing a specific task in context (Bandura, 1977).

Finally, the fundamental assumption of social cognitive theory is that of human agency. Actual skill and capability, whether it is the muscle memory of an athlete or the expertise of a skilled surgeon, are not self-enacting. Insidious self-doubt can easily override the best of skill. Social cognitive theory, thus, assumes that the choices

individuals make—the level of effort they choose to expend in the face of obstacles, the creativity with which they approach challenging problems, and the overall resilience they demonstrate in pursuit of a goal—are heavily influenced by their sense of efficacy. Thus, the more efficacious a teacher feels about educating a group of students, the more likely the teacher is to make choices that positively impact the overall quality of the instruction she delivers, and in turn, the learning of her students. For these reasons, we decided to focus on teachers’ sense of efficacy as an important outcome of the quality of the PD teachers receive. We turn next to our hypotheses.

Rationale

As our review has demonstrated, despite the substantial annual investment in teacher PD made by school systems, the results of research on the effectiveness of PD are inconclusive. To address this problem, we designed this study to focus on whether variability in the quality of the PD teachers receive, matters to their sense of self-efficacy. Specifically, our research question is based on literature that explains PD of high quality should be collaborative, interactive, relevant to teachers, and should provide content teachers can apply. We developed this question based on extant literature. For example, prior research by Goddard and Kim (2018) demonstrated a strong and statistically significant link between teacher collaboration and teacher efficacy beliefs. Further, collaborative learning provided opportunities for socially persuasive interactions with colleagues and the potential for the modeling of teaching techniques by peers that provided both vicarious learning for the observer and enactive mastery experience for the one observed. In addition, the more PD is relevant to teachers’ daily work, the more

likely it is to result in positive affective reactions in participants (Bandura, 1997). Finally, in a study of the impact of a two-year research-based PD program for principals, Miller et al. (2016) concluded the program had no impact on teachers largely because although principals became more knowledgeable about curriculum, instruction and assessment, the PD was designed in a way that led principals to report no growth in the application of their learning in practice. Based on this, our null hypothesis was that there is no relationship between the quality of PD teachers receive and their sense of efficacy. Concomitantly, our alternative hypothesis was that the greater the quality of the PD teachers experience, the greater their sense of efficacy. We examined the following research questions:

- *Using multiple regression, which teacher-level factors (race, gender, years of teaching experience, education level, grade level taught, type of public school) are statistically and significantly related to teachers' perceptions of the quality of the professional development they receive?*
- *What is the relationship between the quality of professional development and teacher self-efficacy?*

Method

This section will discuss the method for our study including the participants in our sample, the measures we employed, data collection, and the process of statistical analysis including exploratory factor analysis and regression analysis. The authors employed multiple regression to achieve the two main purposes of the study: 1) to test the relationship between teacher-level demographic characteristics and teachers' perceptions

of quality professional development; and 2) to test the relationship between professional development quality and teacher self-efficacy beliefs.

Participants

Non-probability sampling of schools in the local region of the researchers was used to collect data through survey methodology (Henry, 1990). Schools (n=140) staffed by 2,003 teachers (14.3 teachers per school) were invited to participate. 53 schools (37.9% of those invited) agreed to participate of which 11 were charter. Participating schools received a set of Form A and Form B teacher surveys, which were randomly distributed to teachers during regularly scheduled faculty meetings. This procedure resulted in each teacher in attendance at the faculty meeting completing either Form A or B, but not both forms.

A total of 354 teachers (6.7 per school) completed each form for a teacher response rate of 93.7%. No attempts were made to obtain data from teachers who were absent from the faculty meeting so the response rate of those in attendance approached 100%. The measures employed for the present study were obtained from Form B and Form A was not employed because it contained data unrelated to our primary independent and dependent variables.

These teachers were predominantly female (81.2%, compared to 75.1% statewide) and White (73.7%, compared to 92.5% statewide). Additionally, 72% of the respondents worked at non-charter public elementary schools, while 28% of teachers worked at charter elementary schools. Across Ohio in the year of the study, there were a total of 3,517 public schools of which 373 (10.7%) were charter (Fordham Institute, 2017; ODE,

2021). Thus, our urban non-probability sample had a higher proportion of charter schools than the state on average.

Teachers (68.9%) in the sample taught first grade or above. Given that the Ohio Department of Education reported that 85.0% of elementary teachers taught grades 1 or higher in the year of our study (Fordham Institute, 2017), our urban sample may have greater proportions of students in pre-k and kindergarten than the statewide average.

In our sample, slightly more than half of the participants had 10 or more years teaching experience and 55.3% had a graduate degree; in comparison, the Ohio Department of Education reported that, for the year of the study in the State of Ohio, 53.2% of teachers had 10 or more years of experience and 62.5% had a graduate degree (ODE, 2021). Thus, we conclude that our urban non-probability sample was slightly more female, less White, and less in possession of a graduate degree than the statewide average.

Table 1

Descriptive Statistics of Sample (n=354)

	N	%	Ohio Statewide Ave.
Teacher of Color	73	21.9%	7.5% ¹
Male	53	15.5%	24.9% ¹
10+ Years Teaching	195	56.4%	56.0% ²
Grade 1+ Teacher	244	68.9%	85.0% ¹
Graduate degree	188	55.3%	62.5% ¹
Charter school	99	28.0%	10.7% ^{2,3}

¹Fordham Institute (2017), ²ODE (2021), ³The number reported here represents the statewide percent of school buildings that were classified by the Ohio Department of Leadership and Research in Education: *The Journal of the Ohio Council of Professors of Educational Administration* (OCPEA), Volume 6, Issue 1, 2021

Education (ODE) to be charter schools; data on the proportion of teachers working in charter schools was not publicly reported by ODE.

Note. Teacher of color (1 = White, 0 = Non-white); Male (1 = male, 0 = female); 10+ Years teaching (1 = 10 or more years, 0 = 0 to 9 years); Grade 1+ teachers (0 = PreK-K, 1 = Grade 1 and beyond); Graduate degree (0 = No Graduate degree, 1 = Graduate degree); Charter school (0 = Traditional public school, 1 = Charter school).

Measures

Two survey-based measures developed and validated by McClusky (2017) were employed in this study. The first measure, the Quality Professional Development Scale (QPDS), was a nine-item questionnaire designed to determine teachers' perceptions of the quality of their most recent professional development experience. This nine-item QPDS questionnaire asked teachers to report their perceptions of the quality of their most recent PD experience. Sample items from the QPDS include: "I learned something about children's learning and development that will change my instructional practice" and "This experience provided opportunities for interactive learning." The second measure Teacher Efficacy Short Form (TESF) was employed to determine teacher self-efficacy beliefs (Hoy & Woolfolk, 1993; Goddard & Goddard, 2001). Both measures included a six-point Likert-type scale from 1 (Strongly Disagree) to 6 (Strongly Agree). All items are found in Table 2.

Table 2

Quality Professional Development Scale (QPDS) and Teacher Efficacy Short Form (TESF)

<i>QPDS</i>	
Question 1	This learning experience was relevant to my needs as an educator.
Question 2	The pacing of this experience gave me enough time to understand the content.
Question 3	This experience considered my previous knowledge and skills.
Question 4	I am able to apply this content in my setting.
Question 5	This experience provided opportunities for interactive learning.
Question 6	I was able to interact with many different colleagues through this experience.
Question 7	I learned something about children's learning and development that will change my instructional practice.
Question 8	This experience provided opportunities that build positive family and community relationships.
Question 9	Overall, this experience was worth my time.
<i>TESF</i>	
Question 10	If a student did not learn content from a previous lesson, I am confident I would be able to increase his/her retention in the next lesson.
Question 11	If a student in my class becomes disruptive or noisy, I feel confident that I can redirect him/her quickly.
Question 12	If I try really hard, I can get through to even the most difficult or unmotivated students.

Analytic Approach

Exploratory Factor Analysis (EFA). To determine the validity of the previously developed QPDS (McClusky, 2017) and TEF (Tschannen-Moran & Woolfolk Hoy, 2001) measures, exploratory factor analysis (EFA) was performed. Principal-axis

analysis was conducted to assess the structure of the items. We planned Promax rotations for both sets of analysis to perform data reduction by revealing any unobservable or latent variables that may be indicated by the observed variables with the goal of gaining a simple factor structure (Bruin, 2015). We selected Promax over Varimax rotation so that in the event more than one factor was extracted, the two factors could be correlated based on the theoretical grounds that the items address a similar topic. Cronbach's alpha was also calculated to assess the reliability of the final set of items for both measures.

Multiple Regression Analysis. To test our hypotheses, we performed multiple regression analysis. The first dependent variable was the degree of quality teachers reported for their most recent PD experience. The second dependent variable was the degree of self-efficacy teachers reported. The six teacher demographic variables (i.e., race, gender, teaching experience, education level, grade level, and type of school) served as independent variables in both models. Variables were re-coded as indicated in Table 3 from above. Multiple regression was used to examine the association between teacher demographics as predictors of the dependent variables, PD quality, and teacher self-efficacy.

For descriptive purposes, we report teacher-level correlations among all variables in Table 3. Notably, non-charter (traditional) public schools had more experienced teachers on average and PD quality was positively and significantly correlated with teacher self-efficacy beliefs.

Table 3*Correlations among Variables (n=354).*

	Grade 1+ teacher	10+ years teaching	Teacher of color	Charter	Teacher Self- efficacy	PD Quality	Male	Graduate degree
Grade 1+ teacher	1							
10+ years teaching	-.03	1						
Teacher of color	.01	-.02	1					
Charter	.05	-.39***	.05	1				
Teacher self- efficacy	-.02	.02	.08	-.02	1			
PD Quality	.04	.03	.02	-.11*	.22***	1		
Male	.13*	-.03	.08	.09	.11*	.07	1	
Graduate degree	.08	.43***	-.01	-.29**	.02	.04	-.02	1

Note. PD = Professional Development; * $p < .05$, *** $p < .001$

Results

This study successfully employed valid and reliable measures of teachers' perceptions of PD quality and self-efficacy beliefs. We found that some teacher demographics were associated with the quality of PD teachers reported. Most

importantly, we rejected our main null hypothesis, which added support for our alternative theoretically-derived hypothesis; specifically, we found a positive and significant link between PD quality and teacher self-efficacy beliefs ($\beta = .20$ $p < .001$). *Quality Professional Development Scale (QPDS)*. The results of Little's test supported the assumption of missing completely at random (MCAR) for all nine items of QPDS, $\chi^2(84) = 100.02$, $p = .112$. Finally, values of kurtosis and skewness of all nine items ranged from $-.94$ to $.50$, which indicates a normal distribution. The validity of QPDS was assessed with EFA of teacher-level data to determine whether the nine items in the QPDS yielded a one factor simple structure matrix. Detailed data for EFA results for QPDS are presented in Table 4 and Figure 1. Results yielded a one factor solution that explained 72.08% of the item variance. Factor loadings for all nine items showed acceptable individual loadings ranging from $.79$ to $.92$. Cronbach's alpha was highly reliable ($\alpha = .96$). The single extracted is named PD Quality in the results that follow.

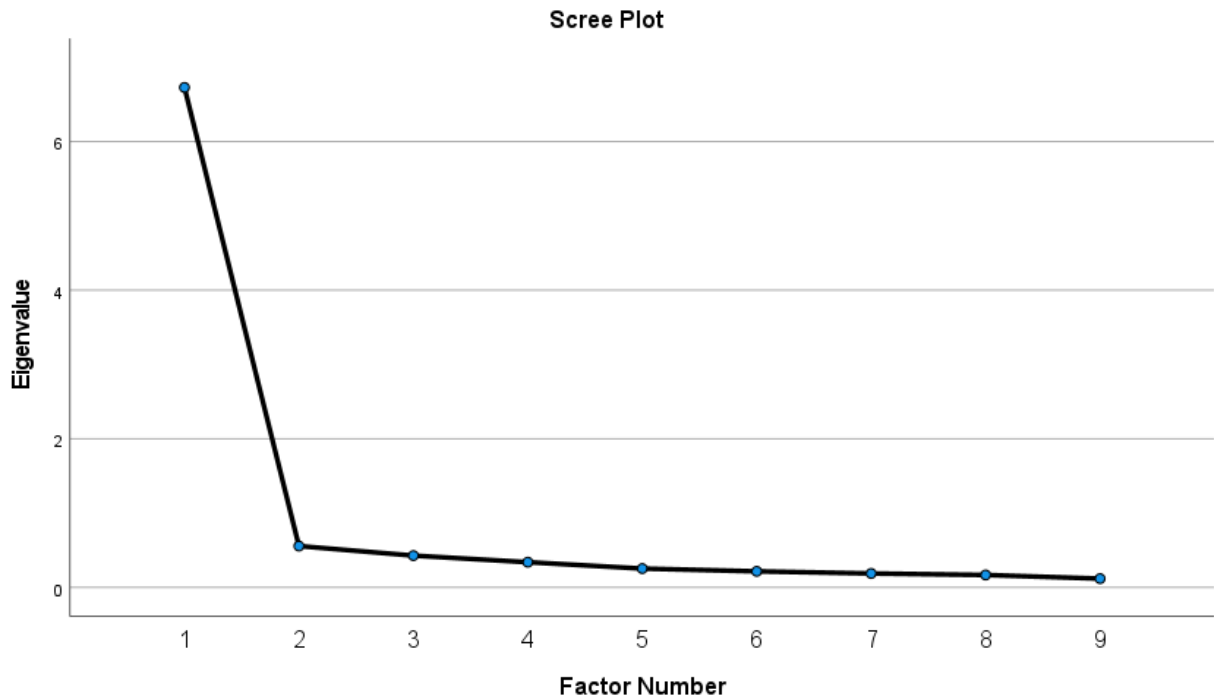
Table 4

Summary of item-level descriptive statistics and factor loading for Quality Professional Development Scale (QPDS) (n=354)

Items	<i>M</i>	<i>SD</i>	Min	Max	Skewness	Kurtosis	Factor loadings
1. This learning experience was relevant to my needs as an educator.	4.41	1.37	1	6	-0.73	-0.18	0.88
2. The pacing of this experience gave me enough time to understand the content.	4.49	1.24	1	6	-0.71	-0.11	0.79
3. This experience considered my previous knowledge and skills.	4.39	1.37	1	6	-0.59	-0.46	0.87
4. I am able to apply this content in my setting.	4.45	1.31	1	6	-0.65	-0.21	0.86
5. This experience provided opportunities for interactive learning.	4.39	1.29	1	6	-0.46	-0.64	0.88
6. I was able to interact with many different colleagues through this experience.	4.37	1.35	1	6	-0.60	-0.43	0.81
7. I learned something about children's learning and development that will change my instructional practice.	4.20	1.40	1	6	-0.53	-0.50	0.84
8. This experience provided opportunities that build positive family and community relationships.	3.89	1.52	1	6	-0.28	-0.94	0.79
9. Overall, this experience was worth my time.	4.30	1.52	1	6	-0.71	-0.48	0.92
Eigenvalue							6.49
Percentage of variance explained							72.08%

Figure 1

Scree plot supporting one-factor structure for Quality Professional Development Scale (QPDS)



Teacher Efficacy Short Form (TESF). We also confirmed the validity and reliability of the TEF. Our EFA yielded a single factor onto which all three teacher self-efficacy belief items loaded with no rotation required. The single factor explained 63.40% of the variance with factor loadings for all three items acceptable and ranging from .74 to .83. Cronbach's alpha for the three items of teacher efficacy short form was .71, which exceeds the minimum acceptable value of .70 reported by Tavakol and Dennick (2011). Detailed information for EFA results for TEF are summarized in Table 5 and Figure 2. The results of Little's MCAR test supported the assumption of missing completely at

random for all three items of TEF, $\chi^2(6) = 3.71, p = .716$. The normal distribution for the three items of TEF was confirmed from the values of kurtosis and skewness which ranged from -.76 to .50. Results of the factor analysis are presented in Table 5.

Table 5

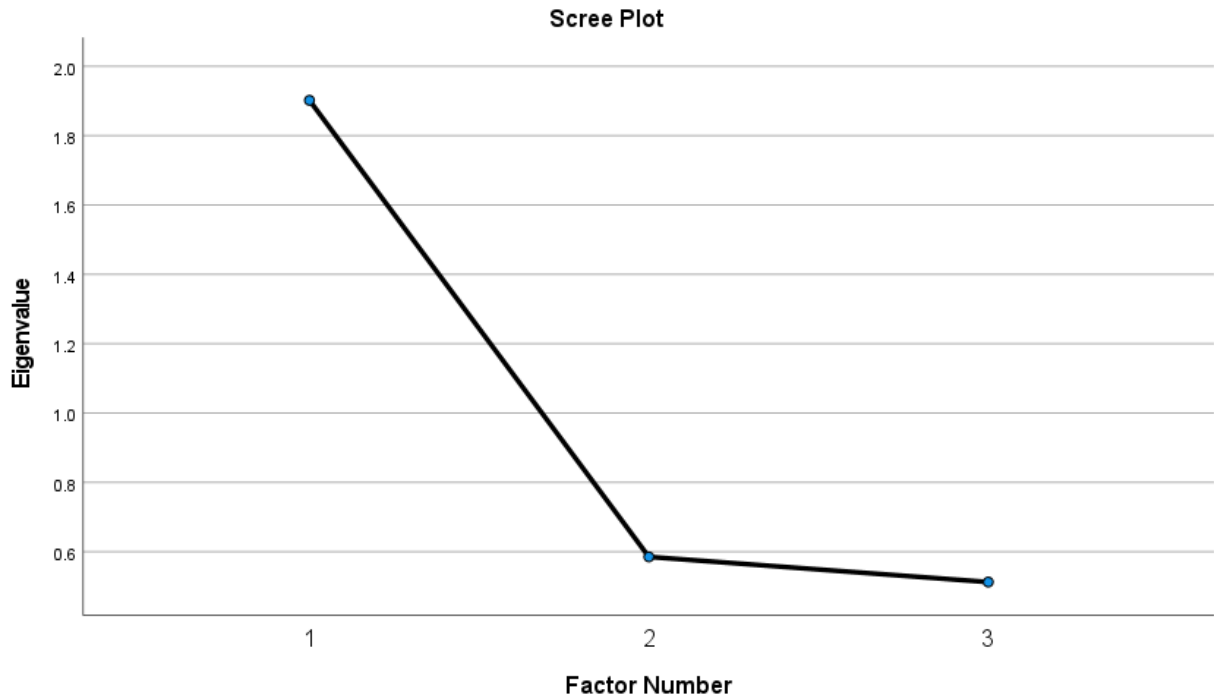
Summary of item-level descriptive statistics and factor loading for the Teacher Efficacy

Short Form (TEF) (n=354)

Items	<i>M</i>	<i>SD</i>	Min	Max	Skewness	Kurtosis	Factor loadings
1. If a student did not learn content from a previous lesson, I am confident I would be able to increase his/her retention in the next lesson.	4.45	1.14	1	6	-0.64	0.08	0.83
2. If a student in my class becomes disruptive or noisy, I feel confident that I can redirect him/her quickly.	4.75	1.05	2	6	-0.71	0.02	0.81
3. If I try really hard, I can get through to even the most difficult or unmotivated students.	4.38	1.16	1	6	-0.62	0.06	0.74
Eigenvalue							1.90
Percentage of variance explained							63.40%

Figure 2

Scree plot supporting one-factor structure for Teacher Efficacy Short Form (TESF).



Predicting Teacher Reports of Professional Development Quality

Consistent with our research questions, we conducted two multiple regressions to test the relationship between teacher level-factors as predictors of PD quality and teacher efficacy as follows:

- 1. Holding constant all others in a multiple regression framework, which teacher-level factors (race, gender, years of teaching experience, education level, grade level taught, type of public school) are statistically and significantly related to teachers' perceptions of the quality of the professional development they receive?*

The first regression analysis examined teacher demographics as predictors of teachers' perceptions of PD quality. Our findings indicate that charter school teachers reported PD quality that was .15 standard deviations lower than did non-charter public school teachers ($p < .05$). While statistically significant, type of public school (charter or not) explained less than 3% of the total variance in teachers reports of PD quality. These findings are consistent with those of Goddard and Skrla (2006) who found that teacher demographic variables explained only 4% of the variance in teachers' collective efficacy beliefs. Findings from this analysis are reported in Table 6.

Table 6

Coefficients for Regression Analysis with PD Quality as Dependent Variable (n=354)

Variable	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
(Constant)	4.32***	.18	
Teacher of color	.02	.17	.01
Graduate degree	.03	.16	.01
Grade 1+ teacher	.10	.16	.04
10+ years teaching	-.06	.16	-.03
Male	.24	.20	.07
Charter School	-.43	.18	-.15*

Note. $R^2 = .028$; * $p < .05$, *** $p < .001$

Predicting the Relationship of PD Quality and Teacher Efficacy

2. *What is the relationship between the quality of professional development teachers receive and their level of self-efficacy beliefs?*

The second regression analysis examined teacher demographics and PD quality as predictors of teachers' sense of self-efficacy. This allowed us to estimate the relationship between PD quality and teachers' self-efficacy beliefs while holding constant the relationship between any teacher demographic variables and teacher efficacy self-efficacy beliefs. Specifically, each standard deviation (SD) increase in teachers' reports of PD quality was associated with .20 standard deviations higher sense of self efficacy ($\beta = .20, p < .001$). Results are summarized in Table 7. This indicates a direct and positive relationship between teachers' reports of professional development quality and their sense of teaching efficacy. While somewhat modest, this association is consistent with the positive and significant relationship we hypothesized between the quality of the PD teachers experience and their sense of efficacy.

Table 7

Coefficients for Regression Analysis with Teacher Self-efficacy as Dependent Variable

Variable	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
(Constant)	3.84***	.22	
Teacher of color	.22	.12	.11
Graduate degree	.02	.11	.01
Grade 1+ teacher	-.10	.12	-.05
10+ years teaching	.10	.12	.05
Charter school	-.02	.13	-.01
Male	.22	.14	.09
PD Quality	.14***	.04	.20***

Note. PD = Professional Development; $R^2 = .066$; * $p < .05$, *** $p < .001$

Discussion

Several conclusions can be drawn from the current study. The first is that teachers' sense of efficacy is not strongly related to their demographic background. Indeed, we found that the level of quality teachers reported for their professional development was not associated with demographic background characteristics including gender, years of experience, ethnicity, grade level assignment, or whether teachers had earned a graduate degree. Put differently, teachers' personal characteristics do not appear to influence the level of quality characterizing the PD they experience.

The next conclusion was that the only teacher demographic variable that had a statistically significant relationship with the quality of professional development reported by teachers was whether they taught in a traditional public school or a charter school. Teachers in our sample who taught in charter schools reported that their professional development was on average of slightly lower quality than did teachers in traditional public schools ($-.15$ standard deviation, $p < .05$). Although the strength of the relationship was modest, to understand it, we considered research on charter schools that indicates charter school teachers are paid significantly less per year than teachers in traditional public schools (Harris, 2006). Reasons for the lower average salaries in charter schools might be found in our own data. For example, Table 3 shows that charter school teachers are significantly less likely than their counterparts in traditional public schools to have 10 or more years of teaching experience or to have a graduate degree, both of which are positively linked to teacher pay in traditional teacher salary schedules. In addition to the lower investment in teacher salaries, Gronberg, Jansen and Taylor (2012) reported that

charter schools spent only about 77% of the amount traditional public schools did on “staff development” (p. 307). That said, while we found that teaching in a charter school (as opposed to a traditional public school) was a significant negative predictor of PD quality, the majority of the variability in teachers’ reports of PD quality was not explained by the type of school in which teachers taught (charter or traditional public). This is consistent with literature reporting only a modest relationship between educational expenditures and student learning (Salloum, Goddard & Berebitsky, 2018). Therefore, future researchers may wish to investigate the degree to which the magnitude of the investment schools make in professional development for teachers is related to the quality of PD teachers experience.

Notably, our first multiple regression analysis also revealed that neither teacher race nor possession of a graduate degree were significant predictors of PD quality. Thus, regardless of their race or education level, those teachers in traditional public schools reported higher PD quality than did their counterparts in charter schools. This may imply that effective PD is more likely funded, accessible, and consumed by traditional non-charter public schools for various reasons. Another possible explanation for our finding that teachers in traditional public schools reported higher levels of PD quality than teachers in charter schools is based on the sample we employed for this study. Specifically, our sample consisted of teachers from a large urban school district and charter schools in its metropolitan Ohio region; it is possible that a public, urban school district may have more systematic approaches to PD than charter schools that are smaller

in size. Future researchers may wish to examine reasons such as these for differences in PD quality between charter and traditional public schools.

Finally, our findings indicate a direct and positive relationship between PD quality and teacher self-efficacy even after controlling for all other teacher demographics. This positive relationship suggests that high quality PD serves to enhance teachers' sense of efficacy for teaching. This, in turn, is likely to foster the types of positive outcomes associated with a robust sense of efficacy, documented in the literature previously reviewed. Thus, one way in which PD of high quality may make a difference to student learning is through its impact on teachers' sense of efficacy and the resilience that accompanies a robust sense of efficacy. The positive relationship between the quality of PD and teachers' sense of efficacy indicates that quality is a key characteristic of PD that school districts should attend to carefully in order to avoid PD programs and activities that consume large stocks of resources but that yield little positive change.

As districts continue to invest in PD, the results of this study provide significant implications for practice. Having a definition of PD quality provides districts with clear guidance when identifying appropriate PD. As such, districts should consider PD designs that:

- honor the knowledge and experience of each of the learners and allows for the learner to be the driving force of the experience rather than the content being the driving force;
- contain a strong rationale and purpose that clearly articulates how the content can be applied to a variety of settings;

- embed a multitude of opportunities for collaboration and interaction with other learners;
- built with the understanding that the individual is the protagonist of their own learning and that the experience is unique from one individual to another (Knowles, 1984; Landry et al., 2009).

What's more, Katz (2011) claimed that professional development experiences designed with teachers and their stages of development in mind can increase their competency, motivation, and overall success as a teacher. Additionally, professional development designs that adhere to this definition can result in more thoughtful and intentional practices to improve instructional quality and student outcomes. As Guskey and Yoon (2009) noted, no improvement effort has ever succeeded in the absence of thoughtfully planned and well-implemented PD. The work offered here is intended to support the creation and access of quality PD in the future.

Limitations, Recommendations, and Final Remarks

A few limitations of this study are worth noting. First, all the teachers surveyed were from elementary schools and not secondary schools, which are known to have a higher proportion of male teachers. Second, it is unknown if the same results would exist when extending a sample across other districts with different home demographic characteristics, such as socioeconomic status, typology, and prior levels of achievement. A third limitation is that this study did not consider the nested nature of data and that the conclusions assumed an independence in the observations of the teachers surveyed.

Finally, our model explained only 6.6% of the variance of teacher self-efficacy, which we

acknowledge as a limitation; future researchers may wish to consider other factors that may predict teacher self-efficacy beliefs and even interact with PD quality such as teacher collaboration.

While this study still demonstrated positive results consistent with the main hypotheses, recommendations for future research in addition to those above are worthy of consideration. First, future studies could include a wider range of samples that are inclusive of a variety of school district typologies (e.g., rural, urban, suburban, socioeconomic status, varied student achievement rates) to generalize findings. Next, additional research should be conducted with a sample of secondary school teachers. Lastly, future research designs could employ multiple types of measures for PD quality to avoid exclusivity of results and reduce bias.

PD plays a significant role in school districts across the country. Although studies exist questioning its effect and worth (Jacob & McGovern, 2015), this study demonstrates that PD quality is a positive predictor of teachers' sense of efficacy for teaching and that in our sample, teachers in traditional public schools reported slightly higher levels of PD quality than did their counterparts in charter schools. Because teacher efficacy beliefs are known to promote positive forms of educational practice and outcomes, attention to PD quality in both traditional and charter schools is warranted based on our findings.

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Prevalence of Drugs and Alcohol in U.S. Secondary Schools: Do Security Measures Matter in School Communities?

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Abstract

Despite the common perception of a decline over recent decades of adolescents' use of illicit drugs and alcohol, the recent exponential rise in teenage vaping has spotlighted how local and school communities must address this endemic public problem. Since use of illicit substance adversely affects adolescent development, it is imperative that educators assess the prevalence of drugs and alcohol and curtail access in secondary schools. We examined the association between drug and alcohol availability and school security measures, using data from the 2015 National Criminal Victimization Survey School Crime Supplement. Logistic regression determined whether school security measures (inclusive, exclusive, and ambiguous) reduce student-perceived drug and alcohol availability in U.S. secondary schools. Our findings indicated that students in secondary schools with school resource officers perceived greater drug and alcohol availability, while locked doors were associated with lower perceived availability. No inclusive security measures were associated with increased or decreased drug and alcohol availability. Only one exclusive measure – locker checks – in a single model related to perceived marijuana availability was significantly associated with perceived lower substance availability. School leaders and policy makers should consider the effectiveness of security measures to reduce substance use, while ascertaining the likelihood of detrimental effects.

Keywords: School Community, Drug and Alcohol Availability, school safety, security measures, Risky Behaviors

A resounding chorus of parent, educator and community voices has resonated across the U.S., imploring political leaders to update policies related to prescription opioid misuse and adolescent access to vaping devices. Despite a decline of substance abuse and availability in U.S. secondary public schools over the past fifty years, more recently,

researchers have reported that increasing rates of illicit drug and alcohol accessibility and prescription opioid misuse have raised concern among parents and educators (Abramoski et al., 2018; Jozaghi & Dadakhah-Chimeh, 2018; National Institute on Drug Abuse (NIDA), 2018). In an extensive overview of adolescent drug use and availability from 1975 to 2018, Johnston et al. (2019) found that vaping of all substances increased exponentially in 2018. According to the 2018 Monitoring the Future Survey (NIDA), teens vaping nicotine, or marijuana, or flavoring increased across all grades 8-12. Further, “nearly 2 in 5 students in 12th grade report past-year vaping” (NIDA, 2018). Notably, Johnston et al. (2019) concluded that adolescents “associate little risk of harm with vaping. Levels of perceived risk for these behaviors rank near the lowest of all substances, with little change in recent years” (p. 4). Perceived availability declined for illicit drugs, while marijuana and alcohol availability persisted for 8th, 10th, and 12th graders, with alcohol remaining the most widely used substance by teens. School-age adolescents can obtain and use substances if they elect to do so, thus requiring school leaders to institute measures to counteract. The paucity of studies that have investigated drug and alcohol availability in schools is problematic because educators remain under-informed about which safety measure may curtail availability. Earlier, Kitsantas (2004) and Finn (2006) and more recently, Tanner-Smith and Fisher (2016) illuminated this lack of direction and have encouraged the research community to address it.

In reaction to tragic acts of school violence, federal and state legislators and policy makers have enacted school safety policies to reduce victimization and risky behaviors (Addington, 2009; Aronowitz et al., 2021; Brown, 2005; Garcia, 2003;

Nickerson & Martens, 2008). Subsequently, school boards have directed administrators to use safety processes to protect students from physical and emotional harm (Akiba, 2010; Biag, 2014; Lindle, 2008) and principals have implemented security measures, such as security cameras, school resource officers (SROs), and metal detectors (Hope, 2015; Gottfredson & Gottfredson, 2001) to quell concerns of parents, teachers, school staff and students. Despite the presence of well-intended safety precautionary processes, students' access to illegal drugs or alcohol in school settings remain a disconcerting issue for educators (Brown, 2005; Portillos et al., 2012; Musu-Gillette et al., 2017; Theriot, 2009). More specific research was warranted to understand how school security measures may or may not impact secondary school students' perception of drug and alcohol availability.

The purpose of this study was to explore an association between students' perceived access to drugs or alcohol within school bounds and the approaches that school leaders have implemented for school security. During the past decade, few studies have investigated students' perception of the availability of drugs and alcohol in schools (Kuntsche, 2010). Researchers have examined the impact of school safety measures by inclusionary discipline (e.g., hallway monitoring, ID badges, and in-school suspension), and exclusionary discipline (Kupchik & Ward, 2014) (e.g., suspension or expulsion) on a school's academic performance (Aronowitz et al., 2021), on school attendance, i.e., interruptions to schooling (Gregory et al., 2010; Hughes et al., 2015), and on students' perceptions of school safety (Biag, 2014; Fisher et al., 2017). Despite the recent expansion of school security measures, researchers have not attempted to analyze how

security approaches may influence students' procurement of drugs and alcohol on school premises. The following research questions guided this study:

1. Is there a relationship between school security approaches and availability of alcohol and drugs in schools serving students in grades 6-12?
2. Are different school security approaches, specifically inclusive or exclusive better predictors of students' perception of alcohol and drug availability within a secondary school?

Conceptual Analysis

General Drug and Alcohol Availability

Researchers with The Substance Abuse and Mental Health Services Administration (2014) analyzed data from the 2013 National Survey on Drug Use and Health and concluded drug availability in general and certain drug use (e.g., marijuana, heroin, alcohol) remained stable or increased when compared to the rate calculated from the previous survey administration a decade earlier. Availability to a few drugs such as cocaine and LSD steadily declined over this same time. These results also showed children and adolescents are at greater risk than adults of becoming addicted when exposed to drugs. Similarly, McCabe et al. (2017) reported that opioid use among adolescents was common over the past four decades. In their study of youth in rural and small urban settings, Monnat and Rigg (2015) found similar rates of opioid abuse, although rural adolescents had greater odds for using substances despite less overall availability. Their findings demonstrated the importance of considering social and community environment factors, above and beyond adolescents' own individual

circumstances, when examining rural/urban differences in prescription opioid misuse (POM)” (p. 214). According to National Institute for Drug Addiction’s (NIDA) annual Monitoring the Future Survey of 8th, 10th, and 12th graders, the use rate of one popular prescription opioid, Vicodin® has decreased since 2009 (Johnston et al., 2019). In 2019, 1.1% of 12th graders misused this drug, but the use of illicit drugs among 12th graders remained steady. This decline likely reflects the diligence of parents and local community public health experts who attend to all aspects of the teen environment—home, school, and community. Opioid misuse rates however increased after the age of 18, signaling the importance of continuing education as young adults prepare to leave home (Dart, 2015; Johnston et al., 2019). McCabe et al. (2013) examined opioid use among U.S. high school seniors and estimated that nearly 13% of graduating students reported nonmedical, substance abuse of the drug. Likewise, Oxycontin®, a popular alternative to other illicit drugs was increasingly available and used by adolescents across the United States (Katz & Hays, 2004). These findings showcased the widespread availability of drugs and alcohol to adolescents.

Marijuana and Alcohol Availability

Marijuana (Substance Abuse and Mental Health Services Administration, 2014) and alcohol (Harding et al., 2016; Johnston et al., 2015) remained the most available drugs for adolescents. Azofeifa et al. (2016) reported that the overall use of marijuana by individuals aged 12–17 increased from 2002 to 2014. During the same time, the perceived availability of the drug in its traditional delivery style declined, despite its availability remaining a concern for educators, parents, and communities. Rosenbaum

(2016) claimed that the recent legalization of marijuana in some U.S. states has created a new cultural context for drug availability. Statistics from the recent Teen Drug Abuse Monitoring the Future (NIDA, 2019) reported teens vaping nicotine or using marijuana daily increased significantly for students in Grades 8 and 10 during 2019. Although marijuana sales are illegal for underage youth, the American College of Pediatricians (2017) expressed concern about how broader legalization of marijuana contributed to the public's perception that marijuana was harmless, despite its adverse effects on the adolescent brain. Scientific "evidence indicates limited legalization of marijuana has already raised rates of unintended marijuana exposure among young children and may increase adolescent use" (American College of Pediatricians, 2017, p. 1). Following the same trend, the 2018 Monitoring the Future College Students and Young Adults Survey (NIDA, 2018b) found that marijuana vaping doubled among college students from 5.2% (2017) to 10.9% (2018). Researchers noted nicotine vaping showed the largest one-year increase of 6.1% (2017) to 15.5% (2018) evidenced in any substance since the first iteration of the survey.

Likewise, the public, educational community, and policy makers should address how best to regulate adolescents' access to alcohol. Shih et al. (2015) reported adolescents residing within communities with greater numbers of liquor stores were more likely to assert increased perceived availability of alcohol and alcohol use in one's lifetime. Milam et al. (2016) associated the number of liquor stores in a community with high school females' perception that alcohol was more readily available and accessible.

In contrast, findings from a study conducted by Jackson et al. (2015) noted a low

percentage of sampled students had easy access to alcohol. However, those students with greater access to alcohol were associated with increased aggressive and noncompliant behaviors and were less likely to engage at school. While binge drinking among teens has dropped significantly over the past five years across all grades 8-12 (NIDA, 2019), the ease with which adolescents obtained marijuana and alcohol exposed students to the negative effects of substance use.

Effects of Drug and Alcohol Availability

The availability of drugs and alcohol has contributed to adolescent substance use, specifically when public school students perceived that they were readily accessible (Kuntsche, 2010). According to Hawkins et al. (1992), the availability of drugs and alcohol and their misuse affected individual traits (e.g., mood disorders, lack of motivation, diminished cognitive functioning) and communities (e.g., expanded costs for health care, increased crime). Substance abuse in formative years affected brain development, academic success during adolescence (Lynskey & Hall, 2000; Spear, 2002; Winters & Arria, 2011), and neuropsychological workings in adulthood (Hanson et al., 2011). Notably, adolescents recovering from alcohol dependency were associated with poorer verbal and nonverbal retention in learning situations (Brown et al., 2000). Balsa et al. (2011) found that increases in consumption of alcohol for adolescent males resulted in lower GPAs, whereas females reported having greater difficulty learning at school. Likewise, use of marijuana during adolescence negatively influenced school performance and reduced long-term educational attainment (Lynskey & Hall, 2000). Martins and Alexandra (2009) described how alcohol, marijuana, and ecstasy use were associated

with lower academic achievement. Findings from these studies have affirmed that access to and use of illicit substances adversely affected adolescents' academic development.

Although adolescents' substance abuse disorders declined between 2003 to 2010, Mericle et al. (2015) noted that a substantial gap between those with disorders and those who received treatment for their disorders persisted throughout the seven-year period under study. Further, failure to seek assistance for a disorder was even more problematic if drugs and alcohol were easily available. Over the past decade, researchers have designated educators responsible for informing adolescents of the risks associated with use of drugs and alcohol and implementing prevention programs to limit adolescent substance use early in their educational experiences (Barry et al., 2016; Hopfer et al., 2010). Despite implementation of early intervention programs, drugs and alcohol remained available to students at school (Musu-Gillette et al., 2017), mostly in middle and high schools. The task of assessing the prevalence of drugs and alcohol in schools and ascertaining which strategies can reduce their availability falls to administrators.

Drug and Alcohol Availability in Schools

Historically, researchers have analyzed data collected annually from various national surveys (e.g., Monitoring the Future, Indicators of School Crime and Safety, Youth Risk Behavior Survey) to assess any association between the availability of drugs and alcohol to adolescents and various risky behaviors of students in secondary and tertiary education institutions (Finn, 2006). More recently, researchers have provided insights about drug and alcohol availability in schools and offered recommendations for practitioners. Musu-Gillette et al. (2017) claimed a decrease in the number of high school

students who reported drug availability from 52% 1995 to 22% in 2015. This finding aligns with results from a study conducted by Johnston et al. (2015) who found an overall decline in illicit drugs that were accessible by adolescents. Although adolescents described a reduction in procurement of drugs within the physical boundary of a school, at least 1 in 5 students perceived that they had access to drugs or alcohol during the school day, if desired. Secondary school students perceived marijuana and alcohol were the most easily accessible items and identified exterior school spaces (play areas) and interior locations (bathrooms) as the least conspicuous sites to obtain these substances (Finn, 2006).

Even as rates for drug and alcohol availability in schools have trended down, district administrators have acknowledged the need for a more proactive and coordinated strategy that eliminates students procuring drugs while on school premises. Clearly, reducing adolescents' use of drugs and alcohol in the general community demands due diligence. This translates to urgent action by school leaders, since youth and adolescents who use drugs on school grounds are associated with increased negative outcomes, such as violence and poor academic performance (Morgan, 2001; Venturelli, 2016; Wong et al., 2014).

Researchers have questioned whether individual- or school-level factors contribute more to drug and alcohol availability and use for students (O'Malley et al., 2006; Swaim, 2003; Voelkl & Frone, 2000). Swaim studied patterns of drug use in high school settings and revealed that students' perception of marijuana availability within a school's perimeter led to greater marijuana use by 12th grade students. An overwhelming

majority of the variance (97%) in marijuana use was explained by individual-level factors that included perceived harm and perceived availability. Any difference between schools contributed minimally to an individual's decision to use marijuana. In a comparable study, O'Malley et al. (2006) also noted little between-school variability in drug and alcohol availability. School leaders should direct their prevention efforts toward understanding why students seek banned substances. Voelkl and Frone (2000) recommended that administrators implement strategies such as adult supervision of the school hallways to reduce opportunity for students to share or use drugs and alcohol. In some cases, these strategies may deter an action that might otherwise lead a student to engage in risky behavior.

Theoretical Framework

Over the past two decades, researchers have postulated that school security and disciplinary practices have become increasingly criminalized over recent decades, suggesting a school's environment resembles that of a prison (Hirschfield, 2008, 2010; Hirschfield & Celinska 2011; Aronowitz et al., 2021). The attacks at Columbine High School (Addington, 2009) and September 11, 2001 (Saltman, 2004) expanded and amplified the use of security measures such as security cameras, SROs, metal detectors, and ID badges (Hope, 2015; Gottfredson & Gottfredson, 2001; Musu-Gillette et al., 2017). School leaders and policy makers criminalized schools, particularly urban ones, by enforcing strict disciplinary codes to maintain order and adopting zero-tolerance policies to deal with misbehavior (Aronowitz et al., 2021; Hirschfield, 2008). School leaders who have adopted these approaches aim to reprimand students for misbehavior and/or drug

possession by inflicting punitive consequences, including exclusion from classes and school (Mowen, 2014; Servoss & Finn, 2014). Noguera (1995) explained that such actions frame schools as prisons, devoid of a welcoming or safe learning environment. As part of this theory, Hirschfield (2008) described the strategies school leaders have introduced as institutionalized hardened methods—for example, investing in school surveillance and relying on exclusionary discipline to track and punish students. Hirschfield based his theoretical framework on Simon's (2007) 'governing-through-crime narrative' which postulates that if crime and violence occur in a school, then all schools are likely to experience similar tendencies and therefore, school security measures and strict disciplinary systems are necessary. School leaders and policy makers who subscribe to this ideology may inadvertently convey to students the message that behavior requires rigid control to prevent further deviant conduct. Hirschfield (2008) has lamented that school criminalization, particularly exclusive measures, may have drastic long-term consequences for students, such as preparing them for similar tendencies when they enter the workforce, as well as labeling students from urban, impoverished schools as lower skilled or destined for jail. The public, legislators, and policy makers, however, have advocated these measures because they feel these approaches can restrict and regulate harmful behaviors (Hirschfield, 2008; Kupchik & Ward, 2014).

In his theory, Hirschfield's (2010) proposed that security measures may have an inclusive or exclusive approach. Specifically, inclusive security measures aim to minimize differences between individuals, whereas exclusive measures highlight the differences and target individuals for punishment. For example, a surveillance camera is

an inclusive security measure because individual students are not singled out, despite constant monitoring (Hirschfield, 2010; Kupchik & Ward, 2014). Other examples of inclusive measures include adult supervision of hallways and student ID badges. School leaders can employ these approaches without focusing on any one student or behavior in their attempts to confine students within the school's boundary. In contrast, a metal detector is an exclusive security measure, used primarily (Hirschfield, 2010) for screening students to catch those with weapons or drugs (Astor, Meyer, & Behre, 1999; Brown, 2005). The process of screening sends a message to students that they are untrustworthy (Hyman & Perone, 1998). Another example of an exclusive measure is the process of checking lockers, such as with the use of drug-sniffing dogs, to determine if students are keeping illicit materials inside (Kupchik & Ward, 2014). Hirschfield (2010) and Kupchik and Ward (2014) have acknowledged that security measures can be either inclusive or exclusive, depending on how a school leader elects to use them.

Since some security measures are not definitely either inclusive or exclusive, Kupchik and Ward (2014) created a third category, 'ambiguous' for measures that do not align with either measure. For example, from one standpoint, administrators may lock gates or doors to restrict all movement in and out of school buildings to protect the general school community. From another, this action may also serve to prevent excluded students from entering the building or isolating perceived offenders from the school community (Kupchik & Ward, 2014). The most notable difference between recommendations from studies conducted by Hirschfield (2010) and Kupchik and Ward (2014) related to the use of SROs. While Hirschfield (2010) proposed that SROs who

conducted their responsibilities beyond patrolling hallways could offer a safer learning space to support students' academic success, Kupchik and Ward (2014), Reingle Gonzalez et al. (2016) and Sullivan and Hausman (2017) have explained the presence of an SRO may conjure students' concern about potential arrest for misbehavior or misconstrued students' perception of the severity of their action. For these reasons, SROs may fit into the ambiguous category. In this study, we classified school security measures into these three categories and then explored the association with drug and alcohol availability.

Methodology

Approval to conduct this study was obtained from the Institutional Review Board of The Ohio State University. The procedures used in this study adhered to the tenets of the Declaration of Helsinki. Data were analyzed from the 2015 School Crime Supplement (SCS) of the National Criminal Victimization Survey. The SCS is completed every other year through face-to-face interviews with students aged 12–18 who have also completed the National Criminal Victimization Survey. Questions in the SCS relate to school and individual characteristics, victimization experiences, fighting and bullying, avoidance behaviors, and presence of gangs and weapons (U.S. Department of Justice, Bureau of Labor Statistics, 2015). In 2015, 5,726 participants completed the SCS. For this study, the initial sample consisted of 4,772 elementary, middle, and high school students. After retaining only those survey completers who were Grade 6 through Grade 12, the final sample was 4,703 participants.

Research Design

The following research questions guided this study:

1. Is there a relationship between school security approaches and the availability of alcohol and drug in schools?
2. Are different school security approaches, specifically inclusive or exclusive, more predictive of alcohol and drug availability within schools?

To answer these questions, a series of logistic regressions was conducted. Each logistic regression examined the association among the different types of security measures and the availability of alcohol and three different types of illicit drugs. The research design also accounted for individual student and school characteristics. The logistic regressions were used to determine the likelihood of students perceiving their school environment as one where drugs and alcohol were more easily available when considering the use (or lack thereof) of different school security measures.

Dependent Variable

The outcome variables in this study were the perceived availability of drugs and alcohol at the school. The SCS asked students four questions about the availability of alcohol, marijuana, prescription drugs such as Oxycontin®, and other illegal drugs such as cocaine. First, for alcohol the question asked was, “Is it possible for students at your school to get alcoholic beverages?” Second, for marijuana the question asked was, “Is it possible for students at your school to get marijuana, also known as pot, weed or mary jane?” Third, for prescription drugs the question asked was, “Is it possible for students at your school to get prescription drugs illegally obtained without a prescription, such as

Oxycontin, Ritalin, or Adderall?” Last, for other illegal drugs the question asked was, “Is it possible for students at your school to get other illegal drugs, such as cocaine, uppers, or heroin?” Participants were asked to respond “yes” or “no” to each of the four questions. For this study, each of the four variables was treated dichotomously.

Independent Variables

The independent variables in the study related to school security measures. Students responded to questions on the SCS that asked if their school made use of the following types of school security measures: school resource officers or guards, adult supervision of school locations, metal detectors, locked doors, locker checks, student identification badges, security cameras, or a student code of conduct. These variables were dichotomously coded (0 = no, 1 = yes). They were grouped as inclusive (security cameras, student identification badges, student code of conduct, adult supervision), exclusive (metal detectors, locker checks), and ambiguous (SROs, locked doors) based on Hirschfield’s (2010) concepts of inclusive versus exclusive disciplinary measures and incorporating the ambiguous concepts that Kupchik and Ward (2014) detailed.

Covariates

The first set of covariates related to student characteristics. Student’s age, continuous variables, measured age at the time of survey administration. The second covariate, gender, was measured as a dichotomous variable (0 = male, 1 = female). The next covariate, race, was coded categorically into three separate categories—White, Black, and other—with White serving as the reference group. A variable assessing a student’s ethnicity (Hispanic or not Hispanic) was also measured dichotomously (0 = no,

1 = yes). The fifth covariate measured a student's grade level, with responses grouped into one of four categories: fifth grade or below, sixth through eighth, ninth through 12th, or other grade level. Finally, the last covariate, academic achievement, was measured as a continuous variable from students' grades (1 = Fs to 5 = As).

The second set of covariates described the school characteristics. School location (0 = urban, 1 = rural) and school type (0 = public, 1 = private) were measured as dichotomous variables within the SCS and maintained as such for inclusion in the models. The next school covariate, grade configuration, was measured as a categorical variable and divided into four categories: elementary (Grade 5 or below), middle (Grades 6–8), high (Grades 9–12), and other. Next, the variable for school size was coded into six categories: less than 300 students, 300–599 students, 600–999 students, 1,000–1,499 students, 1,500–1,999 students, and more than 2,000 students. Schools with less than 300 students served as the reference group. The fifth covariate assessed the percentage of minority students attending the school, coded into four categories: less than 5%, 5% to less than 20%, 20% to less than 50%, and greater than 50%. Schools with less than 5% minority students served as the reference group. The sixth and final covariate measured the percentage of students on free and reduced lunch and was coded into four categories: 0 to less than 20%, 20% to less than 50%, greater than 50%, and private schools.

Analytic Plan

Using SPSS software, four logistic regressions were conducted. Inclusive, exclusive (Hirschfield, 2008, 2010), and ambiguous (Kupchik and Ward, 2014) measures for school security, type of substance, and the types of school security measures were

regressed. These models supported a close examination of the association between risky behaviors, characterized by alcohol and drug availability, and the different school security approaches. The coefficient values represented the change in log-odds for a one-unit increase in each independent variable. Missing cases were removed from analysis through listwise deletion. The lack of school-level identifiers within the SCS did not allow for multilevel modeling. Therefore, single-level analysis was utilized as the analytic technique.

Results

Descriptive statistics for each of the outcome and independent variables were tabulated. Three findings were noted that relate to the outcome variables. First, respondents reported alcohol (23%), marijuana (34.4%), and prescription drugs (20.2%) were available at school, with a smaller percentage (12.9%) stating that other types of illegal drugs were accessible. The sample was primarily composed of White students (80.1%) with approximately equal proportion of males and females. Black students (12.6%) made up the second largest racial/ethnic group. About three-quarters of the student respondents identified as non-Hispanic (75%). Second, an overwhelming majority of students ($N = 4,703$) reported being in the middle and high school grades, which was expected because of the age range (12–18) for survey participants. As previously stated, students who indicated they were in grades K–5 ($N = 60$) or in other grades ($N = 9$) were removed from the sample before analysis because of the relatively small number of participants in these grade levels. Last, students in the sample reported

high academic achievement with a mean GPA equal to 4.24. Table 1 reports the descriptive statistics for each of the independent variables.

Table 1*Descriptive Statistics*

Variables		N	Mean (SD) or Frequency (%)
Drug and Alcohol Availability			
Alcohol	Yes	4,611	1,062 (23%)
	No		3,549 (77%)
Marijuana	Yes	4,580	1,574 (34.4%)
	No		3,006 (65.6%)
Prescription Drugs	Yes	4,516	911 (20.2%)
	No		3,605 (79.8%)
Other Illegal Drugs	Yes	4,524	583 (12.9%)
	No		3,941 (87.1%)
Age		4,717	14.69 (1.87)
Gender	Male	4,772	2,447 (51.3%)
	Female		2,325 (48.7%)
Race	White	4,772	3,730 (80.1%)
	Black		600 (12.6%)
	Other		442 (9.3%)
Hispanic	No	4,769	3,577 (75%)
	Yes		1,192 (25%)
Grade	Fifth or Under	4,772	60 (1.3%)
	Sixth through Eighth		1,946 (40.8%)
	Ninth through Twelfth		2,757 (57.8%)
	Other Grade		9 (0.2%)
Grades		4,610	4.24 (.79)
School Location	Urban	4,772	3,833 (80.3%)
	Rural		939 (19.7%)
School Type	Public	4,708	4,389 (92%)
	Private		319 (6.7%)
Grade Configuration	Elementary	4,473	278 (6.2%)
	Middle		1,426 (31.9%)
	High		2,496 (55.8%)
	Other		273 (5.7%)

Table 1*Descriptive Statistics (continued)*

Variables		N	Mean (SD) or Frequency (%)
School Size		4,492	
	Less than 300		438 (9.2%)
	301-559		877 (19.5%)
	600-999		1,137 (25.3%)
	1000-1499		848 (17.8%)
	1500-1999		572 (12.7%)
	2000 or More		620 (13.8%)
Percent Minority		4,772	
	Less than 5%		308 (6.5%)
	5 to less than 20%		1,038 (23.3%)
	20 to less than 50%		1,335 (28%)
	50% or greater		1,768 (37%)
Free and Reduced Lunch		4,772	
	0 to less than 20%		641 (13.4%)
	20 to less than 50%		1,619 (33.9%)
	50% or greater		1,948 (40.8%)
	Private School		276 (5.8%)
Security Cameras		4,169	
	No		326 (7.8%)
	Yes		3,843 (92.2%)
Student ID Badges		4,637	
	No		3,555 (76.7%)
	Yes		1,082 (23.3%)
Adult Supervision		4,601	
	No		415 (9.0%)
	Yes		4,186 (91.0%)
Code of Conduct		4,580	
	No		111 (2.4%)
	Yes		4,469 (97.6%)
Metal Detectors		4,196	
	No		3,655 (87.1%)
	Yes		541 (12.9%)
Locker Checks		3,585	
	No		1,340 (37.4%)
	Yes		2,245 (62.6%)
School Resource Officers		4,508	
	No		1,258 (27.9%)
	Yes		3,250 (72.1%)
Locked Doors		4,391	
	No		727 (16.6%)
	Yes		3,664 (83.4%)

For school characteristics, 80% of schools in the sample were urban and over 90% were public schools. More than 50% of sampled schools served a high school population, with the second largest group serving middle school students (31.9%). Schools serving 600–999 students constituted the largest group in the sample (25.3%). For the final two covariates, schools serving greater than 50% of minority students (37%) and students qualifying for free and reduced lunch (40.8%) comprised the largest groups in the sample.

For the main predictor variables related to school security measures, the most widely used approaches were the inclusive and ambiguous methods. Students indicated that security cameras (92.2%), adult supervision (91%), and codes of conduct (97.6%) were inclusive measures widely used in their schools. For exclusive measures students noted that locker checks (62.6%) were prevalent in school systems. Relative to ambiguous measures, SROs (72.1%) and locked doors (83.4%) were targeted by students as commonly utilized practices. Student ID badges (23.3%) and metal detectors (12.9%) were adopted less frequently by schools than all other measures.

Next, logistic regressions were conducted to determine the association between perceived drug and alcohol availability and school security measures. Model 1 tested the perceived availability of alcohol and school security approaches, considering student and school covariates. Related to the predictor variables, only the two ambiguous security measures had a significant association with perceived drug and alcohol availability.

Students who attended schools with SROs were associated with increased log-odds ($\beta =$

0.26, $p < .05$) while locked doors were associated with decreased log-odds ($\beta = -0.33$, $p < .05$) for perceived alcohol availability.

Five of the student covariates were significantly associated with perceived drug and alcohol availability. First, age ($\beta = 0.11$, $p < .01$) of a student was associated with increased log-odds for perceived alcohol availability. Next, when compared to White students, both Black ($\beta = -0.60$, $p < .001$) and other races ($\beta = -0.70$, $p < .001$) were associated with decreased log-odds for perceived alcohol availability. Additionally, Hispanic students ($\beta = -0.40$, $p < .01$) were associated with decreased log-odds for perceived alcohol availability. The last significant student covariate, academic achievement ($\beta = -0.17$, $p < .01$), was associated with decreased log-odds for perceived alcohol availability. Only two school covariates were significantly associated with the first outcome variable, alcohol. Students in rural schools ($\beta = -0.36$, $p < .05$) were associated with decreased log-odds for perceived alcohol availability. Further, when compared to elementary schools, students attending high schools ($\beta = 1.01$, $p < .01$) were associated with increased log-odds for perceived alcohol availability.

Model 2 examined the association between perceived marijuana availability and school security measures, considering student and school covariates. Related to the predictor variables, one exclusive measure, students in schools with locker checks ($\beta = 0.20$, $p < .05$), were associated with increased log-odds for perceived marijuana availability. Both ambiguous approaches were significantly associated with student beliefs about marijuana accessibility. Students in schools with resource officers ($\beta = 0.41$

$p < .001$) were associated with increased log-odds, while those in schools with locked doors were associated with decreased log-odds ($\beta = -0.27, p < .05$) for perceived marijuana availability. Several student covariates were significantly associated with marijuana availability. Age ($\beta = 0.15, p < .001$) was associated with increased log-odds for perceived marijuana availability. Like the previous model, when compared to White students, Blacks ($\beta = -0.51, p < .001$) and other races ($\beta = -0.38, p < .05$) were associated with decreased log-odds for perceived marijuana availability. Additionally, Hispanic students ($\beta = -0.33, p < .01$) were associated with decreased log-odds for perceived marijuana availability. Finally, academic achievement ($\beta = -0.19, p < .001$) was associated with decreased log-odds for perceived marijuana availability. There were four school covariates significantly associated with students' beliefs regarding marijuana accessibility. When compared to students in elementary schools, high school students ($\beta = 0.73, p < .05$) were associated with increased log-odds for perceived marijuana availability. The remaining significant covariates related to school size; when compared to students in schools with less than 300 students, students in schools with 600-999 students ($\beta = 0.60, p < .01$), 1,000-1,499 students ($\beta = 0.67, p < .001$), and more than 2,000 students ($\beta = 0.57, p < .05$) were associated with increased log-odds for perceived marijuana availability. Results from the logistic regressions for perceived alcohol and marijuana availability are displayed in Table 2.

Table 2

Logistic Regression Models Predicting Odds of Perceived Alcohol and Marijuana Availability by Security Measures

Variable	Model 1 - Alcohol		Model 2 - Marijuana	
	β (SE)	OR	β (SE)	OR
Constant	-2.59 (1.04)*	.08	-3.56 (.99)***	.03
Age	.11 (.04)**	1.11	.15 (.04)***	1.16
Gender	.06 (.10)	1.06	.14 (.09)	1.15
Black	-.60 (.16)***	.55	-.51 (.15)***	.60
Other Races	-.70 (.19)***	.50	-.38 (.17)*	.69
Hispanic	-.40 (.13)**	.67	-.33 (.12)**	.72
9th through 12th Grade	-.03 (.26)	.97	.27 (.23)	1.31
Grades	-.17 (.06)**	.84	-.19 (.06)***	.83
School Location	-.36 (.14)*	.70	-.23 (.13)	.79
School Type	-.34 (.30)	.71	-.31 (.29)	.73
Grade Configuration				
Middle	.39 (.33)	1.48	.22 (.28)	1.25
High	1.01 (.38)**	2.74	.73 (.32)*	2.08
Other School Configuration	.47 (.41)	1.60	.34 (.35)	1.40
School Size				
301-599	.17 (.22)	1.19	.31 (.19)	1.37
600-999	.39 (.22)	1.47	.60 (.20)**	1.82
1,000-1,499	.41 (.23)	1.50	.67 (.21)***	1.96
1,500-1,999	.13 (.25)	1.14	.41 (.22)	1.51
2,000+	.37 (.25)	1.45	.57 (.23)*	1.76
Percent Minority				
5 to less than 20%	-.09 (.21)	.92	-.18 (.19)	.84
20 to less than 50%	.17 (.21)	1.18	.04 (.19)	1.05
50%+	.10 (.24)	1.10	.01 (.22)	1.00
Free and Reduced Lunch %				
20 to less than 50%	-.07 (.14)	.94	.05 (.14)	1.05
50%+	-.24 (.17)	.78	.09 (.16)	1.10
Private School	.41 (.87)	1.50	.02 (.85)	1.02
Security Cameras	.22 (.23)	1.25	.12 (.20)	1.13
Student ID Badges	.19 (.12)	1.21	-.12 (.11)	.89
Adult Supervision	.06 (.19)	1.06	-.13 (.17)	.88
Code of Conduct	-.33 (.35)	.72	.22 (.35)	1.25
Metal Detectors	-.22 (.15)	.81	-.24 (.13)	.79
Locker Checks	.13 (.10)	1.14	.20 (.10)*	1.23
School Resource Officers	.26 (.13)*	1.29	.41 (.12)***	1.50
Locked Doors	-.33 (.13)*	.72	-.27 (.12)*	.77

p<.001***, p<.01**, p<.05*

Model 3 explored the association between perceived prescription drug availability and school security measures, considering student and school covariates. Only ambiguous security measures were significantly associated with perceived prescription drug availability. Students in schools with SROs ($\beta = 0.35, p < .05$) were associated with increased log-odds, whereas students in schools with locked doors ($\beta = -0.33, p < .05$) were associated with decreased log-odds with perceived prescription drug availability. Several student covariates were significantly associated with perceived prescription drug availability. First, age ($\beta = 0.15, p < .001$) was associated with increased log-odds for perceived prescription drug availability. For race, when compared to White students, Black ($\beta = -0.55, p < .01$) and other races ($\beta = -0.99, p < .001$) students were associated with decreased log-odds for perceived prescription drug availability. Likewise, Hispanic students ($\beta = -0.52, p < .001$) were associated with decreased log-odds for perceived prescription drug availability. Last, students with higher academic achievement ($\beta = -0.24, p < .001$) were associated with decreased log-odds for perceived drug and alcohol availability. For school covariates, four variables were statistically significant. Related to school size, when compared to students in schools with less than 300 students, students in schools with 600-999 students ($\beta = 0.72, p < .01$), 1,000-1,499 students ($\beta = 0.87, p < .001$), and more than 2,000 students ($\beta = 0.94, p < .001$) were associated with increased log-odds for perceived prescription drug availability. Finally, when compared to students in schools with less than 5% minority enrollment, students in schools with greater than

50% minority enrollment ($\beta = -0.53, p < .05$) were associated with decreased log-odds for perceived prescription drug availability.

Model 4 surveyed the association between student perceived availability of other illegal drugs and school security approaches. Only one ambiguous measure was significantly associated with perceived availability of other illegal drugs. Students in schools with resource officers ($\beta = 0.52, p < .01$) were associated with increased log-odds for perceived availability of other illegal drugs. Student-level covariates were also significantly associated with the perceived availability of other illegal drugs. First, age ($\beta = 0.11, p < .05$) was associated with increased log-odds for perceived availability of other illegal drugs. Also, females ($\beta = 0.38, p < .01$) were associated with increased log-odds for perceived availability of other illegal drugs. Further, when compared to Whites, Blacks ($\beta = -0.42, p < .05$) were associated with decreased log-odds with perceived availability of other illegal drugs. Like previous models, Hispanics ($\beta = -0.34, p < .05$) were associated with decreased log-odds with perceived availability of other illegal drugs). Last, students with higher achievement ($\beta = -0.24, p < .001$) were associated with decreased log-odds for perceived availability of other illegal drugs. Five school-level covariates were significantly associated with perceived availability of other illegal drugs. Students in rural schools ($\beta = -0.40, p < .05$) were associated with decreased log-odds for perceived availability of other illegal drugs. Related to school size, when compared to students in schools with less than 300 students, students in schools with 600-999 students ($\beta = 0.75, p < .05$), 1,000-1,499 students ($\beta = 0.79, p < .05$), 1,500-1,999 students ($\beta =$

0.76, $p < .05$) and more than 2,000 students ($\beta = 1.18$, $p < .05$) were associated with increased log-odds for perceived prescription drug availability. Results from Models 3 and 4 are displayed in Table 3.

Table 3

Logistic Regression Models Predicting Odds of Perceived Prescription and Other Illegal Drug Availability by Security Measures

Variable	Model 3 – Prescription Drugs		Model 4 – Other Illegal Drugs	
	β (SE)	OR	β (SE)	OR
Constant	-5.32 (1.31)***	.01	-2.78 (1.32)*	.06
Age	.15 (.04)***	1.17	.11 (.05)*	1.12
Gender	.16 (.10)	1.18	.38 (.12)**	1.47
Black	-.55 (.18)**	.58	-.42 (.20)*	.66
Other Races	-.99 (.23)***	.37	-.45 (.24)	.64
Hispanic	-.52 (.15)***	.60	-.34 (.17)*	.71
9th through 12th Grade	.28 (.30)	1.33	-.28 (.34)	.76
Grades	-.24 (.07)***	.79	-.24 (.08)***	.78
School Location	-.24 (.15)	.79	-.40 (.18)*	.67
School Type	-.18 (.37)	.83	-.34 (.58)	.71
Grade Configuration				
Middle	-.17 (.37)	.85	-.33 (.41)	.72
High	.61 (.42)	1.84	.62 (.48)	1.86
Other School Configuration	-.17 (.48)	.85	-.26 (.55)	.78
School Size				
301-599	.37 (.25)	1.45	.45 (.33)	1.58
600-999	.72 (.25)**	2.06	.75 (.33)*	2.11
1,000-1,499	.87 (.26)***	2.39	.79 (.34)*	2.18
1,500-1,999	.53 (.28)	1.70	.76 (.35)*	2.14
2,000+	.94 (.28)***	2.57	1.18 (.35)***	3.26
Percent Minority				
5 to less than 20%	-.09 (.22)	.92	-.27 (.26)	.77
20 to less than 50%	.03 (.22)	1.03	-.20 (.26)	.82
50%+	-.53 (.25)*	.59	-.49 (.30)	.61
Free and Reduced Lunch %				
20 to less than 50%	.06 (.16)	1.06	-.11 (.17)	.89
50%+	.34 (.19)	1.41	-.19 (.21)	.83
Private School	-.17 (1.07)	.84	-.29 (1.58)	.75
Security Cameras	.15 (.26)	1.16	-.39 (.27)	.68
Student ID Badges	-.02 (.13)	.98	.20 (.14)	1.22
Adult Supervision	-.10 (.20)	.91	-.19 (.23)	.83
Code of Conduct	.71 (.51)	2.02	.06 (.48)	1.06
Metal Detectors	.02 (.15)	1.02	.04 (.18)	1.04
Locker Checks	.19 (.12)	1.21	.16 (.13)	1.18
School Resource Officers	.35 (.14)*	1.42	.52 (.18)**	1.69
Locked Doors	-.33 (.14)*	.72	-.26 (.16)	.77

p<.001***, p<.01**, p<.05*

Discussion

In our study, four types of illicit substances and their perceived availability in schools were examined when considering three categories of school security measures. In Model 1, only security measures identified as ambiguous had an association with students' perceived alcohol availability, and the results were mixed. Students in schools with locked doors perceived a decrease in availability of alcohol, while students with SROs perceived an increase in availability. For Model 2, three types of security measures – both ambiguous and one exclusive – were associated with perceived marijuana availability. Students in schools with locker checks and SROs perceived increased marijuana availability, while students in schools with locked doors perceived less availability. In Model 3, again only ambiguous security measures had an association with perceived prescription drug availability. Similar to findings from the model that examined perceived alcohol availability, students in schools with locked doors perceived a decrease in availability of prescription drugs, whereas students in schools with SROs perceived an increase in availability. Finally, in Model 4 only one security measure had a significant association with prohibited drug availability. Students in schools with SROs perceived increased availability of other illegal substances.

In contrast to Cheurprakobkit and Bartsch's (2005) study which found no correlation between security measures and school drug crime, our results indicated that security measures do play a role in students' perceptions of substance availability. Across each model, students believed it was more likely they could obtain illicit substances at schools that employ SROs. Additionally, students perceived marijuana was readily

available in schools where locker checks were utilized. Findings from other studies also support this claim. For example, Brown (2005) noted that students discussed the ease with which they could bring drugs or weapons onto campus if they chose to try, despite the prevalence of any form of security measure, particularly SROs. In support of this claim, Portillos, Gonzalez, and Peguero (2012) reported that students creatively found ways to skirt security measures and bring unlawful items into the school building. Tanner-Smith and Fisher (2016) suggested that students have grown accustomed to the existence of various security approaches and have found ways to counter safety steps. Consequently, it is plausible that a student's decision to access an illicit item within the school is no longer affected by the presence of a security measure. Possibly, the increased proliferation of school security in recent times enables students to observe and leverage any flaw in each safety approach. Moreover, security measures within school systems cannot peruse the entire physical space, often leaving portions of the building either unsupervised by adults or not viewable by technology (Astor et al., 1999). These unoccupied spaces within the school building likely concede opportunities for students to engage in risky behaviors if they so choose, making it plausible that these are areas where students obtain drugs or alcohol. In support of Cheurprakobkit and Bartsch's (2005) findings, our study also found inclusive security measures had no association in either direction with the perceived availability of drugs or alcohol.

With reference to exclusive measures, Brown (2005) found that students perceived this approach to be the most effective in preventing drug crimes in schools. Results from our study suggested otherwise. Only one exclusive measure, locker checks

in a single model related to marijuana availability significantly associated with lower perceived substance availability. Notably, locker checks also associated with increased likelihood of accessibility of illegal drugs. Without doubt, U.S. school leaders and policy makers largely assumed the presence of exclusive measures reduced student misbehavior and enhanced school safety (Kupchik & Ward, 2014). Researchers have asserted that such approaches harmed learning environments (Fabelo et al., 2011; Hirschfield, 2008, 2010; Kupchik, 2010; Kupchik & Ward, 2014) and disproportionately punished minority students (Payne & Welch, 2010; Servoss & Finn, 2014; Skiba, Michael, Nardo, & Peterson, 2002; Welch & Payne, 2010, 2012). Findings from our study offered evidence to argue against the use of exclusive measures, as they do not detract from the likelihood that students are able to obtain drugs and alcohol in school.

Implications for Practitioners

Using data from a nationally representative data set from public schools, we investigated the role of security measures and drug and alcohol availability in schools from the students' viewpoint. For three of the substances, alcohol, marijuana, and prescription drugs, over 20% of students believed they were accessible within the school which is greater than or approximates findings in a recent analysis (Musu-Gillete et al., 2017). While this is only one study related to drug and alcohol availability, this statistical indicator should cause concern for school leaders and policy makers, as it represents a sharp increase at a time when reported adolescent drug and alcohol use is perceived by the public to be declining (Johnston et al., 2015; Mericle et al., 2015). Even more concerning for the educational community should be the increase in perceived drug and

alcohol availability despite the increasing number of schools that employ security measures designed to reduce crime, misbehavior, and substance availability (Addington, 2009; Lindle, 2008; Musu-Gillete et al., 2017). School leaders should urge school leaders to address these concerns, knowing the harmful effects of illicit substances on adolescent development (Hanson et al., 2011; Lynskey & Hall, 2000; Winters & Arria, 2011).

School leaders often unquestioningly have adopted security measures in urban schools in response to the misassumption that security curbs students' misbehavior (Devine, 1996; Kupchik & Ward, 2014; Williams et al, 2018). Moreover, *these* students are often treated as offenders in need of stringent regulation (Aronowitz et al., 2021). As previously stated, minority or low-income students' academic performance has suffered disproportionately from the presence of school security approaches in these schools (Kupchik & Ward, 2014; Welch & Payne, 2010, 2012; Williams et al., 2018). Yet evidence from our study informs administrators that schools with greater proportions of low-income students and underserved minority groups show no greater inclination for the availability of substances that allow students to engage in risky behavior. Consequently, district leaders should re-consider the use of security measures.

Implications for Principal and Teacher Leader Preparation Programs

Principal and teacher leader preparation programs should advance future school leaders' awareness of the changing landscape of best practice for crafting appropriate school safety and emergency plans, while upholding the reality that violence is not limited to poor, urban neighborhoods. Preparation programs can also help principals and teacher leaders construct informed understandings of how to effectively maintain a safe,

learning environment for adults and children, “especially in times when fears about student safety that follow mass school shootings can put principals in a difficult position” (Blad, 2018, p. 5). Although decisions about safety procedures, school police, and equipment are often shaped by mandates set by state legislatures, superintendents' offices, and school boards, principals are closest to the fear and angst of parents, students, and teachers. They are most often the ones being questioned about how safe their buildings are and if their staff is prepared for the unimaginable. Prospective principals and superintendents should understand how to collaborate with school safety experts in ways that both protect and advance the rights of adults and students. Further, school leaders need exposure to best practices for keeping their schools safe, for clearly explain how those safety-related decisions are made, and for inviting feedback from parents and the public. While a response is never going to happen where or how or when a school leader expects, a comprehensive plan enables each potential contributor to rehearse important action should it become necessary. Our study’s outcomes support many principals’ claim that “school safety shouldn't be reduced to a scramble to buy expensive metal detectors and equipment after a deadly incident somewhere else in the country grabs headlines” (Blad, 2018, p. 7).

Implications for Policy Makers

School leaders and policy makers should consider the impact of school security measures on adolescent development. Students may act out in negative ways if they feel like they are being treated unfairly or considered ‘criminals’ even when their behavior suggests the opposite. Kayama et al. (2015) found that minority students have often

subscribed to this belief and possessed lower self-esteem because of how they heard themselves talked about in schools that instituted more exclusionary discipline and security measures. This is a critically important concern for policy makers, as students must be comfortable at school to focus on their education. After exposure to high security environments employing police officers, security cameras, and metal detectors, students reported negative effects such as increased levels of fear (Schreck & Miller, 2003), feeling of powerlessness (Bracy, 2011; Perumean-Cheney & Sutton, 2012), and unsafe spaces to learn (Williams et al., 2018). Our findings show that school security measures did not reduce the perceived availability of drugs and alcohol for students. Moreover, Greene (2005) has asserted that educators in their efforts to create safe school environments should refrain from changing security plans at least until an adequate evaluation occurs. Policy makers should consider whether the costs of these approaches which are often quite high (Garcia, 2003) are worthwhile given the harmful outcomes that are associated with them.

Implications for Research and Limitations

As previously noted, there were few studies that examined the availability and use of drugs and alcohol within school systems (Finn, 2006; Milam et al., 2016). Although researchers have claimed that school leaders believe they use security measures to create a climate of safety for students and employees (Biag, 2014; Williams et al., 2018), there was a lack of empirical studies related to school security and students' perceived access to banned substances. Researchers should continue to evaluate the effects of security measures in school settings, specifically whether security measures reduce the

availability of illegal substances to students. If, as our claims suggest security measures do not reduce the likelihood that students can obtain drugs on campus, then this is ‘good’ reason to rethink how and why security approaches are implemented.

Several limitations are inherent to our study. First, the data did not explicitly reveal how school administrators applied each security measure within a designated school (Hirschfield, 2010; Kupchik & Ward, 2014). Therefore, each security measure was categorized by evidence from existing studies and current practices which describe how each measure is typically implemented in schools. Second, because the data did not provide unique school identifiers, we were unable to conduct multilevel models to determine the between-school variance in perceived drug and alcohol availability. Multilevel models allowed for greater exploration into the role of student- and school-level variables and covariates and the contributions to overall variance in the outcome variable. Third, the SCS did not provide data about students’ parents or guardians and therefore restricted how a specific factor such as socioeconomic status influenced the outcomes of each model. Last, SCS did not ask students if their school provides any other type of drug or alcohol prevention program. These programs may prove more valuable than school security measures in reducing drug and alcohol availability for adolescents. Future studies should seek to address these limitations and should further examine methods and procedures school systems utilize to ensure safety, in relation to substance availability and use. While these security measures are instituted to create a level of safety and security for students, teachers, and parents, researchers regularly have noted negative outcomes associated with them. Future studies should also examine the types of

anti-drug programs schools are implementing with their students in conjunction with security measures to determine if these proactive measures are more impactful than punitive security approaches.

Declarations

Ethics Approval

This study was performed in line with the principles of the Declaration of Helsinki.

Approval was granted by the Institutional Review Board of The Ohio State University (7/5/2017/No2017E0485).

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