Examining School Sector and Mission in a Landscape of Parental Choice[1]

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Abstract: Researchers have considered how school choice policies affect student achievement, but less inquiry explores how the organization of schools may change in the presence of choice. This descriptive and exploratory paper analyzes a state representative sample of school mission statements at two time points: before the enactment of choice policies in Indiana, namely the Indiana Choice Scholarship Program, and again six years into the policy. Using structural topic modeling, this paper examines whether and how school mission statements topics have changed over this period. Descriptive findings suggest mission statement topics differ significantly between sectors but show few changes over time. The most striking shift is that Catholic and other private religious schools appear to be clarifying the religious aspects of their mission in the presence of robust choice policies.
Keywords: school choice; school sector; mission statements; elementary schools; topic modeling

Examinar el sector escolar y la misión en un panorama de elección de los padres
Resumen: Los investigadores han considerado cómo las políticas de elección de escuela afectan el rendimiento de los estudiantes, pero menos investigaciones exploran cómo la organización de las escuelas puede cambiar en presencia de elección. Este artículo descriptivo y exploratorio analiza una muestra representativa del estado de declaraciones de misión escolar en dos momentos: antes de la promulgación de políticas de elección en Indiana, a saber, el Programa de Becas de Elección de Indiana, y nuevamente seis años después de la política. Utilizando modelos de temas estructurales, este artículo examina si los temas de las declaraciones de misión de la escuela han cambiado durante este período y cómo. Los hallazgos descriptivos sugieren que los temas de la declaración de misión difieren significativamente entre sectores, pero muestran pocos cambios a lo largo del tiempo. El cambio más sorprendente es que las escuelas católicas y otras escuelas religiosas privadas parecen estar aclarando los aspectos religiosos de su misión en presencia de políticas de elección sólidas.
Palabras-clave: elección de escuela; sector escolar; declaraciones de misión; escuelas primarias; modelado de temas

Examinando o setor escolar e a missão num cenário de escolha dos pais
Resumo: Os investigadores têm considerado a forma como as políticas de escolha escolar afetam o desempenho dos alunos, mas menos investigação explora como a organização das escolas pode mudar na presença de escolha. Este artigo descritivo e exploratório analisa uma amostra representativa do estado de declarações de missão escolar em dois momentos: antes da promulgação de políticas de escolha em Indiana, nomeadamente o Programa de Bolsas de Estudo de Indiana, e novamente seis anos após o início da política. Usando modelagem de tópicos estruturais, este artigo examina se e como os tópicos das declarações de missão da escola mudaram ao longo deste período. Os resultados descritivos sugerem que os tópicos da declaração de missão diferem significativamente entre sectores, mas mostram poucas mudanças ao longo do tempo. A mudança mais surpreendente é que as escolas religiosas católicas e outras escolas privadas parecem estar a clarificar os aspectos religiosos da sua missão na presença de políticas de escolha robustas.
Palavras-chave: escolha escolar; setor escolar; declarações de missão; escolas primárias; modelagem de tópicos

Examining School Sector and Mission in a Landscape of Parental Choice

Most school choice research has focused on how policies affect student achievement (Belfield & Levin, 2002) and increasingly consider longer-term outcomes of high school and postsecondary attainment (Egalite & Wolf, 2016; Hitt et al., 2018). Other research has examined the school context, finding trends in which private schools are more likely to participate in choice programs (Austin, 2015; Sude et al., 2018), along with which students are more likely to use a voucher (Campbell et al., 2005) or attend a charter school (Hoxby & Murarka, 2009). Less research, however, has considered whether there have been changes in schools, particularly changes related to school organization (Austin & Berends, 2018; Berends, 2015). Understanding how schools and school sectors may adapt and change within a landscape of parental choice policies can provide additional evidence to further consider policy influence.

School mission statements are organizational tools that summarize school priorities for both internal and external audiences in the form of public content. These statements can provide educators a blueprint for learning and help to capture the shared values and objectives among the school faculty and staff (Hallinan, 2005). Although mission statements do not provide direct evidence of what goes on in schools or whether and how the mission is or is not enacted, the content of these statements can be examined and compared to better understand how education objectives vary among different sector schools as well as how schools frame these objectives for prospective families.

This study contributes to research on educational policy by examining the following questions: (1) How do mission statement topics differ by school sector, and (2) how have the stated missions of schools shifted in the presence of robust school choice programs? To answer these questions, this study takes advantage of structural topic modeling (STM), one of a number of innovative text analysis methods, to assist in the systematic coding of a large, state representative sample of school mission statements in Indiana, a state with generous choice policies. The use of topic modeling in the analysis provides a measure of difference between the topics used in different sectors as well as a measure of change in these statements between two time points. Changes in stated school mission can provide policymakers with additional evidence related to the influences of choice policies and may assist parents in their choice of school and sector.

Literature Review

School Mission Statements

Creating a school mission statement, a strategic planning tool originating in the corporate sector (Braun et al., 2012; Drucker, 1974), has reached near complete adoption within the educational field due to school accreditation requirements (Allen et al., 2018; Morphew & Hartley, 2006; Stemler et al., 2011) and school improvement efforts more broadly (Goldring & Berends, 2009). These statements, developed by school leaders with the input of teachers and other community stakeholders, are written for audiences inside the school community as well as those in the larger, local community. School mission statements can guide the actions of personnel and provide current and prospective families a summary of the stated aims of the organization, similar to corporate and non-profit mission statements.

Critics question how well the content of mission statements represent the practice and performance of organizations and find them to be overly general (Khalifa, 2011). However, research by Weiss and Piderit (1999) examines school performance pre- and post-adoption of the practice in Michigan and suggests that mission statements are heterogeneous, offering insight into how leaders

understand the organizational goals of the school, and are fluid, open to both interpretation and to revision. Based on a national sample of mission statements, Stemler and colleagues (2011) argue that school mission statements can be reliably coded and illustrate systematic differences related to local context. Researching mission statements in Pennsylvania, Schafft and Biddle (2013) support the use of mission statements as empirical data but find less evidence that mission statements are unique to local context, instead finding statements to be rhetorically similar with evidence of borrowed ideas and representations of state-wide institutional discourse and debate.

In higher education, Morphew and Hartley (2006) find common patterns among similar universities but determine that these patterns have different "flavors" (p. 468) that appeal to specific values held by stakeholders and serve a signaling function for audiences. When comparing mission by school sector, several researchers have found distinct differences between public schools and private schools (Allen et al., 2018; Boerema, 2006; Morphew & Hartley, 2006). Taken together, these studies suggest that sufficient variation exists among mission statements to provide fruitful study, and that these statements may reflect a diffusion of ideas within a local area and are thus subject to changes in state and local policy.

School Sector and Mission

Schools, regardless of sector, have traditionally focused on forming and socializing students, preparing them for success as adults. The type of formation in different schools and sectors likely varies as Hunter and Olson (2018) argue, "schools constitute their own moral ecosystems and are sites that advance their own views about human life and the just society" (p. 12). An examination of school mission by sector provides opportunities for understanding how the purposes of schooling and views about personal formation may vary across the wider educational field.

Public schools have historically held priorities of fostering citizenship and moral character since the time of Horace Mann. Over time, accountability pressures have brought student academic outcomes and improvement into greater focus (Guhin, 2018). Public school mission statements have been previously coded using inductive strategies, resulting in between 9 to 15 somewhat consistent topics (Stemler et al., 2011; Weiss & Piderit, 1999). These topics generally include cognitive/academic development, social development, emotional development, civic development, physical development, vocational preparation, integration into the local and global community, and providing a safe/nurturing environment and a challenging environment among others (Stemler et al., 2011). These statements reflect the broad goals of public schooling: student development, a productive learning environment, and preparation of students for life beyond schooling. Public schools, organized into local districts, often share a uniform mission statement, and some research has found district mission statements to more closely reflect state and national priorities over those of local communities (Ingle et al., 2020; Schafft & Biddle, 2013).

Charter schools were established on the premise that fewer district regulations would lead to innovation in education, and in turn, improved student achievement. The charter school field is marked by substantial heterogeneity, with highly individualistic models, but two common threads that run through these schools are an emphasis on student achievement growth as well as student responsibility for achievement (Maloney, 2018). Some research has focused on charter school mission statements to consider how programs of study and priorities may differ from traditional public schools and has found that some charter missions resemble those of the public sector, while others detail a specific curriculum, thematic focus, or intended population (Renzulli et al., 2015). Other research suggests that charter schools share many themes with public schools but demonstrate a greater focus on cognitive and academic development with less focus on civic development (Lubienski & Lee, 2016; Stemler & Bebell, 2012).

Less research has focused on how private and religious school mission statements differ in content beyond the inclusion of religious and spiritual topics, but one study suggests that private school mission statements often reflect the needs of the founding community, which may be "faith based, class based, or special interest" (Boerema, 2006, p. 199). This suggests that specific elements of a school's faith tradition may be evident in the mission statement and that religious school mission statements will differ according to their specific beliefs about the purposes of education.

For example, Catholic schools make up the largest segment of private and religious schools in the US and were established in response to Protestant prayer and Bible reading in public schools. Catholic schools focus on educating the whole person (Hunt, 2012), and Catholic Church documents advocate for integrated academic and religious education with an understanding that religious faith and moral formation are inseparable and that striving for academic excellence is a way to work toward holiness (Nuzzi et al., 2012). While the mission of the Catholic Church likely influences the content of Catholic school mission statements, school decisions are made locally. Diocesan education offices have varying influence over Catholic schools, which operate more as a system of schools than a bureaucratic school system (Brown, 2010), which likely leads to more local control over mission statement content.

Conservative Christian schools are sponsored by a number of different denominations and churches, but center their education on the person of Christ and salvation through his life, death, and resurrection, the Bible, and personal witness to faith as well as a personal relationship with Christ (Sikkink, 2018). In conservative Christian schools, moral and religious formation has been found to be of primary importance in schooling endeavors, with academic and civic aspects of education playing more supporting roles (Sikkink, 2012). Some but not all conservative Christian schools are loosely affiliated with larger organizations (e.g., the Association of Christian Schools International, American Association of Christian Schools) but are governed independently by the local faith community.

In sum, previous research suggests that school mission statements will differ by school sector, with each reflecting some sense of the school sector's educational priorities. Public school missions have been found to reflect general goals of student development, descriptions of the learning environment, and future outcomes for students, while research suggests charter school mission statements to be more focused on academic achievement. Although less research has considered private school mission statements, they have been found to reflect the specific educational goals of schools' founding communities, with religious schools likely referencing elements of the specific religious tradition or denomination for which the schools are a ministry. Thus, mission statements are likely to reflect the diversity of educational ecologies (Hunter & Olson, 2018) present among the various schooling options.

Possible Influences of Choice on Mission

Private and religious schools represent different educational ecologies, in part, because of their independence from the state. However, in choosing to participate in a choice scholarship program, private schools must accept greater state involvement in exchange for state funds. At the outset of Indiana's voucher program, some school leaders expressed concerns that religious schools would lose their religious identity amid the additional accountability and involvement with the state (Austin, 2015). As mission statements are written for both internal and external audiences, changes in the school's educational priorities and purposes as a result of participating in choice programs may be reflected in the statement content and able to provide a sense of whether choice policies are influencing organizational priorities.

Further, choice programs provide increased access to the different school sectors for a wider range of students and families, and the mission statement can introduce prospective students and

families to the organizational priorities of the schools. As charter, private, and religious schools operate with greater autonomy and under local governance, they may consider making language or content revisions to their mission (Bryk et al., 1993; Wong & Klopott, 2009). Thus, in the presence of choice programs and with the acceptance of state funds, we might expect more changes in stated mission in these sectors in comparison to public schools.

If charter, private, and religious schools may be more likely to adjust or revise their stated missions, what changes might be visible? Some schools may wish to emphasize what makes them distinctive from other schools, be it a teaching philosophy, approach to learning, innovation, or curricular focus that might not be available in mainstream public schooling. Religious schools may also take this approach. As some research finds that many parents desire a faith-based education for their children (Catt & Rhinesmith, 2017), religious schools may choose to further describe or discuss the religious aspects of their mission. With some religious schools struggling to keep viable enrollment numbers, however, some religious schools may adjust the focus of their mission to more general aspects of education to appeal to a wider student-base. By secularizing the language of their mission, religious schools may seek to market themselves as similar to public and charter schools to attract and enroll additional students.

School Choice Policies in Indiana

The robust school choice policies in Indiana make it an important case for school sector study. Indiana's choice policies have expanded steadily over time to include increased access to schools of all sectors. An increasing number of students have participated in Indiana choice programs over the course of the last two decades through public school choice, the establishment of public charter schools, and the availability of tax credit scholarships and vouchers for use in participating private schools. In addition, both public and private schools in Indiana take the same state achievement test, and as a result, more school- and student-level data is publicly available in a centralized manner for private schools in Indiana as compared to other states.

Within the public sector, Indiana has voluntary inter-district choice, and school districts have the option to allow students from other districts to attend their schools. Within Indianapolis, both inter-district and intra-district choice—the ability to transfer to a public school other than the assigned district school—are mandatory (Education Commission of the States, 2017). A public charter school law was passed in 2001, and while the number of charter schools was initially capped on a per annum basis, the law has expanded since 2005 to remove caps and to increase the number of charter authorizers within the state. The Indiana charter sector grew from 11 schools in 2002 to 95 schools in 2017, serving over 48,000 students (Indiana Department of Education [IDOE], 2018a; National Alliance for Public Charter Schools, 2018). In 2021–22, there were 120 charter schools operating in Indiana (Indiana Charter School Board, n.d.).

Indiana also provides options for qualifying students to attend private schools using state funds. In 2011, Indiana passed the Indiana Choice Scholarship Program, a voucher program based on family income and eligibility requirements, with increasing pathways for student eligibility over time. The program, which began in the 2011–12 school year, served both low- and middle-income students and provided over 35,000 students a voucher to attend one of 318 participating private schools in 2017–18 (IDOE, 2018a). By 2022–23, this number had increased to over 53,000 students in 343 schools (IDOE, 2023). Most recently in 2023, the state passed legislature that makes the Indiana Choice Scholarship program near universal for 2023–24, providing families that make 400% of the poverty level a voucher to use at a participating private school if they choose (Smith, 2023).

In addition, Indiana supports a tax-credit scholarship program, which allows individuals and corporations to contribute to state-approved scholarship-granting organizations (SGOs) that

provide private school scholarships to low-income students. This program distributed over 9,000 scholarships to students in 2016–17 (IDOE, 2018b). In 2021–22, this number had risen to over 14,000 (IDOE, 2022). Contributors to these SGOs are able to claim a 50% state income tax credit for these contributions (EdChoice, 2017).

The number of students using some form of public or private school choice more than tripled between 2009 and 2018, from just over 30,000 to over 100,000, serving roughly 10% of K-12 students in Indiana (IDOE, 2018a). With the expansion in schools and policies for academic year 2023–24, 96% of K-12 students in the state will be eligible for some form of choice (Smith, 2023). Thus, Indiana's multiple and robust policies have increased families' access to all potential school sectors—traditional public, charter, and private—and provide an important case for considering how these policies have resulted in changes to the objectives of schooling in each sector.

Data and Methods

To consider how mission statement content has changed descriptively in the presence of school choice policy, mission statements were collected from a representative sample of Indiana schools at two time points: prior to the adoption of the Indiana Choice Scholarship Program (ICSP) and six years into the policy (2016–17) to capture the initial shocks of increased state-funded choice. The representative sample was comprised of 575 traditional public, charter, and private schools in conjunction with the larger School Effectiveness in Indiana (SEI) study. The study seeks to better understand organizational and instructional conditions in an environment of school choice (Berends & Waddington, 2015). The sample was drawn from all schools in Indiana who served grades K-8 in some configuration and who administered the state standardized test (I-STEP+). The sample was stratified on the basis of region, urban locale, school level, and socioeconomic status. In addition, private schools were stratified by religious affiliation, either Catholic or other (nonsectarian and other religious). A follow-up survey was sent via email to school principals during summer 2017 to gather information regarding current and previous school mission statements since 2009. The response rate for this survey was 64%, but responses related to archival mission statements at the first time point were lower as changes in school leadership in many schools meant these statements were not accessible.

To create a more complete dataset, school websites were searched to locate the 2016–17 school mission statements from non-respondent schools. School mission statements are often publicly available and located on the front page of the school website, an informational page, or a school handbook posted to the website. To locate mission statements at the earlier time point, the Internet archive (http://archive.org) was used to search school webpages from the years 2009 to 2011. This independent, non-profit website houses a searchable digital library of millions of Internet sites over time and provides dated screenshots of websites. The combined dataset of survey responses and web-collected statements yielded 902 mission statements from 547 schools (95% of the original sample of 575 schools), with mission statements available at two time points for 357 schools (62% of the original sample). Of schools included at both time points, 58% had revised or rewritten their mission statement during this period (see Table 1).

Mission statement texts were merged with school administrative data publicly available from the Indiana Department of Education (IDOE), including size of school, racial/ethnic composition of school, socioeconomic composition of school, aggregate academic achievement, and location of school. For the pre-voucher measures, publicly available IDOE data from academic year 2009–10 were merged with publicly available data from the U.S. Department of Education, National Center for Education Statistics, Private School Survey 2009–10 and Common Core of Data 2009–10 to create a more complete dataset. For the 2016–17 school context measures, principal-reported school

administrative data from the SEI principal survey were merged with IDOE data from academic year 2016–17 to fill in missing values.

Table 1

Number of Mission Statements by Sector and Time Point

Sector	Pre-voucher (Time 1)	2016–17 (Time 2)	Total statements
Catholic	83	113	196
Charter	10	23	33
Other private	27	75	102
Traditional public	248	323	571
Total statements	368	534	902

Note: The analysis includes 902 total mission statements from 547 of the 575 SEI sample schools (95%). Statements at two time points are included for 357 of the 547 schools (62%). For schools included at both time points, 58% had revised or rewritten their mission statement over this period.

Supplemental analyses suggest missing data are a result of the inability to retrieve mission statement text at time 1 and are not driven by school sector or other school characteristics. There are also a small number of charter schools that were established between the two time points and for whom a mission statement at time 1 does not exist. While it would be ideal to include a matched sample of mission statements at both time points, excluding schools without mission statements at the earlier time point would have eliminated more than 200 schools, resulting in a sample that was no longer representative of schools in the state. As the focus of the analysis is on change between and within the different sectors over time and not on change within individual schools, as many mission statements and schools as possible were included from the two time points in order to fully consider school sector trends over this period.

Structural Topic Modeling

School mission statements have been inductively coded in recent research, resulting in roughly a dozen consistent themes (Lubienski & Lee, 2016; Stemler et al., 2011; Weiss & Piderit, 1999). Using recent advances in automated coding techniques, a few studies have used quantitative modeling and machine learning with mission statements (Allen et al., 2018; Jungblut & Jungblut, 2017) to surface hidden or latent themes that may have been overlooked in previous analysis (Bail, 2014; Ignatow & Mihalcea, 2017; Mutzel, 2015). Similar to these automated analyses of mission statements, a computational grounded theory approach is used (Nelson, 2017). In this three-step process (see Appendix A), unsupervised machine-learning techniques (i.e., topic modeling) are used to first identify patterns in the content. Next, the researcher interprets and makes sense of the patterns using prior research and extensive reading of the content. Finally, patterns are confirmed using additional computational methods of the unsupervised model. In this manner, topic modeling is both a qualitative and quantitative endeavor. While the topic model itself is an unsupervised, automated process based on a statistical model of language, the output of the model is informed and interpreted by the researcher's knowledge of the area of study. Rather than remove this substantive interpretive element, topic modeling merely adjusts the order of the analysis, shifting the qualitative aspect to a later point in the analytical process (Mutzel, 2015).

Topic modeling techniques consider text documents as a "bag of words," essentially ignoring punctuation, word order, and a list of commonly used words (e.g., and, or, the) in order to create a cluster of topics. In probabilistic topic models, the likelihood that a topic—understood as a co-occurrence of words—will be present in a document is also calculated (Blei, 2012; Ignatow & Mihalcea, 2017; Mohr & Bogdanov, 2013). The topics the model identifies offer "relationality of meaning" within the text capturing the embedded nature of topics within the larger collection of words (DiMaggio et al., 2013, p. 571).

This analysis used structural topic modeling (STM; Roberts et al., 2012), an unsupervised model that estimates a specified number of topics (k) present within a collection of texts, using data within a set of covariates to help determine the structure and content of topics. STM, like other topic models, defines document-specific distributions over words from which a word's topic assignment is based and allows for a document to be associated with more than one topic (Roberts et al., 2012). STM, however, enables the inclusion of school-level information, including school sector, time point, school size, school aggregate academic achievement among others, within the discovery of topics and the estimation of differences in topics according to school attributes.

Model Decisions and Data Analysis

To prepare the text for analysis, the term "mission" was manually removed as well as school names, locations, and communities. Then a series of automated cleaning processes were run within the STM package in R (Roberts et al., 2012) to remove punctuation, low frequency words, high frequency words, and common English prepositions and pronouns, also known as stop words. The program also stems words, reducing them to their root forms for analysis (e.g., "academic" became "academ" in order to capture the related words academy, academic, academics).

Then a set of school context variables were added to the model that had potential to impact mission. School sector and year serve as the main covariates of interest, with sector defined as one of four categories—traditional public, charter, Catholic, and other private—and year defined as the two time points in the analysis: 2009–11 and 2016–17. School size, school level, school location, percent of students qualifying for free or reduced-price lunch (FRL), percent of students from race/ethnic minority groups, and percent of students passing both reading and math on the ISTEP+ standardized test were included as additional covariates (see Table 2).

Next, the model was run iteratively with different numbers of user-specified k topics. As inductive coding of mission statements determined between 9 and 15 consistent topics in previous research (Lubienski & Lee, 2016; Stemler et al., 2011; Weiss & Piderit, 1999), the model was run for values of k between 6 and 20 to extend the possibility of finding either fewer or additional topics compared to manual coding. Each model returned the specified number of topics in the form of high probability words and high frequency words. The output for each value k was compared, noting overlapping topics, looking for topics that seemed repetitive or topics that should be condensed with other topics. This was repeated for each level of k in decreasing order until noting distinctive topics that were being subsumed into more general topics and therefore lost to analysis. To assist in this process, a spreadsheet was created with rows for each identified topic and columns for each model of value k in descending order. Within each column, the topic output was listed, keeping common or similar topics within the same row across values of k to provide a visual of when topics disappeared or appeared. The optimal value k was chosen based on topic content, with k=17 selected as it provided the greatest breadth of intuitive topics with the least overlap of words and ideas (Ignatow & Mihalcea, 2017; Mutzel, 2015; Steyvers & Griffiths, 2007).

Table 2

Descriptive Statistics for Analytic Sample of Statements

Variable	Full sample pr/mean (SD)	Pre-voucher (Time 1) pr/mean (SD)	2016–17 (Time 2) pr/mean (SD)
Sector			
Catholic	.217	.226	.212
Charter	.037	.027	.043
Other private	.113	.073	.140
Traditional public	.633	.674	.605
Enrollment			
1-300	.325	.291	.348
301-500	.351	.353	.350
501+	.324	.356	.302
Level			
Elementary	.456	.478	.440
Elementary/middle	.279	.272	.285
Middle	.172	.179	.167
Middle/high	.037	.035	.038
K-12	.057	.035	.071
Location			
Rural	.185	.190	.182
Town	.214	.212	.215
Suburb	.332	.337	.328
City	.269	.261	.275
Percent FRL	.405 (.255)	.350 (.239)	.443 (.259)
Percent minority	.246 (.250)	.206 (.219)	.273 (.267)
Percent passing STEP+	.624 (.189)	.745 (.128)	.540 (.180)
N (Statements)	902	368	534

The choice of k=17 was then verified both qualitatively and quantitatively. From a qualitative perspective, word clouds of high probability words for each topic were examined (see Figure 1). A close reading of 25 mission statements associated with each topic was conducted in order to verify the consistency of ideas within topics, to create a definition for each topic, and to determine a researcher-generated descriptive label to assist in the discussion of findings (see Table 3 and Appendix B).

Figure 1

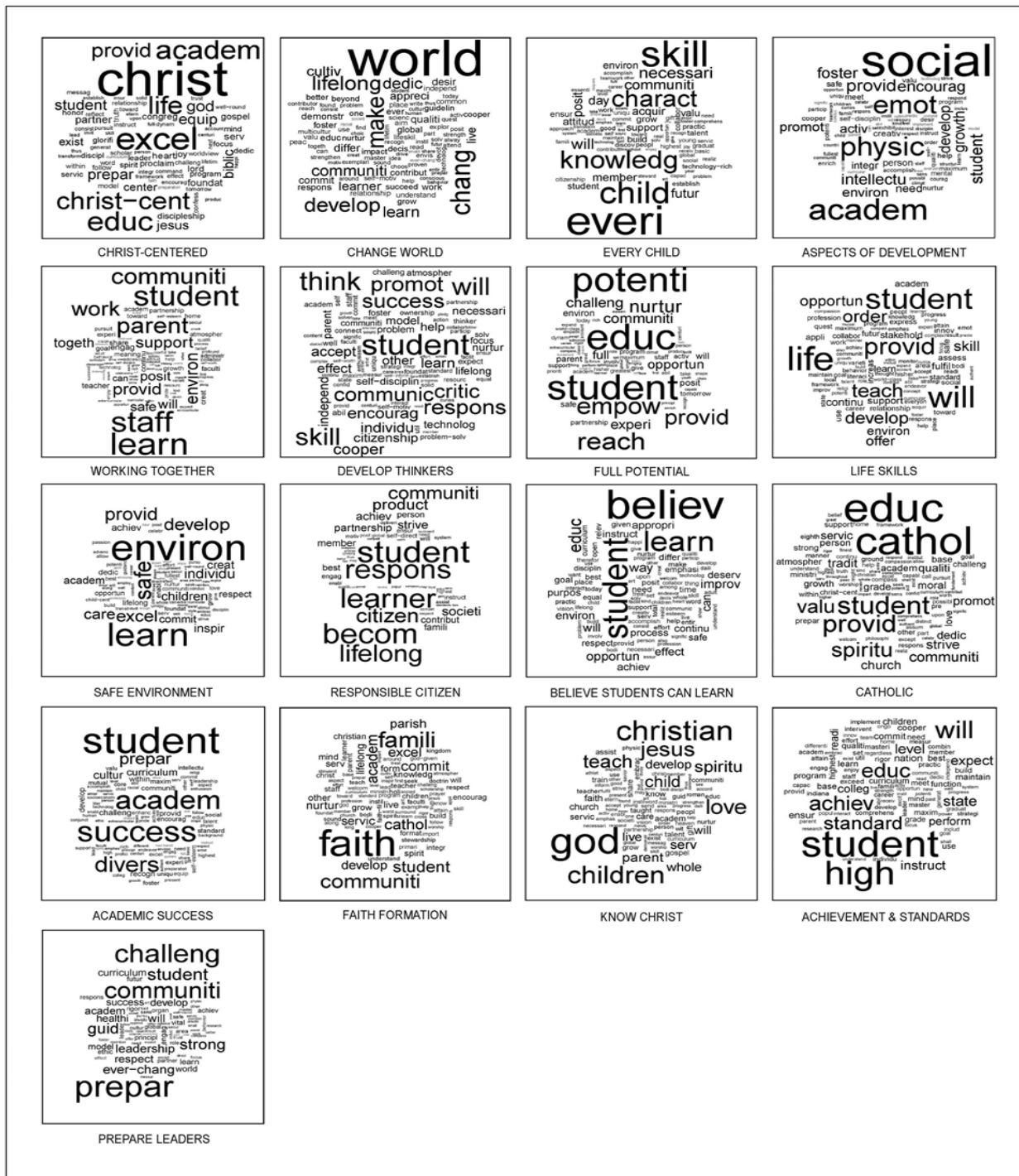*Word Cloud Visualizations of High Probability Words in Each Topic*

Table 3

Topic Model Solution (*k*=17)

Topic	Most frequent	Example mission statement	Definition
Christ-centered	christ, biblic, christ-cent, center, equip, lord, discipleship	"… is dedicated to preparing the next generation to serve the Lord Jesus Christ by providing an education built upon biblical truth and marked by excellence."	Provides education focused on Christ
Change world	chang, world, make, cultiv, ever, appreci, impact	"… dedicated to quality education and committed to developing lifelong learners who value themselves, contribute to their community and succeed in a changing world."	Prepares students who can make an impact
Every child	everi, charact, day, knowledg, child, skill, necessari	"… in partnership with all stakeholders, supports every student in acquiring the knowledge, skills, and attitudes necessary to reach their full potential."	Recognizes the importance of each individual
Aspects of development	social, emot, physic, intellectu, growth, foster, activ	"… to meet the intellectual, creative, emotional, physical, and social needs of all students. Everyone is committed to developing students to their fullest potential."	Offers multiple types of learning
Working together	staff, work, togeth, parent, teacher, meaning, support	"... faculty, support staff, parents, and community is to provide a safe and caring environment rich in academic and technological curriculum in which all students learn."	Works together with parents and community members
Develop thinkers	think, creative, critic, communic, citizenship, respect, accept	"... to develop each student's ability to communicate effectively, read independently, solve problems, and to demonstrate responsibility for their own learning."	Teaches students to think critically and/or creatively
Full potential	empow, reach, potenti, full, experi, nurture, educ	"... provide a positive, safe, and nurturing environment where students are empowered to take an active role in their own education and to reach their potential."	Helps students be their best
Life skills	order, life, offer, stakehold, assess, fulfill, express	"... to provide a safe environment which emphasizes academic achievements, life skills, and responsible behavior in order to prepare our students to be successful in school and beyond."	Provides students with important skills
Safe environment	care, inspir, environ, individu, creat, safe learn	"… is committed to providing a safe and caring environment where all children will want to learn."	Ensures a place to learn free from danger or fear
Responsible citizen	becom, citizen, learner, product, respons, societi, lifelong	"... as a family, community, and school partnership, is to ensure that each student becomes a self-directed learner and a contributing responsible citizen through an instructional delivery system that engages students in achieving their personal best."	Teaches students how to be contributing members of society

Table 3 (Cont'd.)

Topic Model Solution (k=17)

Topic	Most frequent	Example mission statement	Definition
Believe can learn	believ, way, appropri, deserv, purpos, improv, process	"We believe all students deserve a safe, respectful, positive, and caring environment to realize their full potential socially, physically, and academically."	Holds the belief that all children are capable of learning and success
Catholic	cathol, tradit, spiritu, church, moral, grade, valu	"… is an educational ministry of … and exists to provide all students from preschool through eighth grade an exceptional education in a supportive atmosphere based on Catholic values and tradition."	Provides education in the Catholic tradition, including values, rituals, and beliefs
Academic success	divers, success, cultur, recog, within, enhance, core	"... to develop socially responsible students who are literate, academically successful, engaged in all aspects of their education and prepared for success in the 21st century."	Makes academic success a priority
Faith formation	faith, form, parish, famili, format, holi, spirit	"In a nurturing environment and through the cooperative effort of families, teachers, and parish community, all children at … will develop a sound foundation of Catholic faith along with an excellent base of knowledge that prepares them to be lifelong learners."	Helps students become active participants in their faith
Know Christ	christian, god, jesus, love, whole, children, teach	"… to provide, in partnership with parents, a Christian Education which guides children to know Jesus as their Savior through God Word, and to strive for academic excellence in a life of service to Him."	Assists students in developing a personal relationship with Christ
Achievement and standards	high, nation, perform, college, level, state, readi	"... is committed to the total education of children as measured by their ability to master and exceed district, state, and national standards. A system of differentiation including remediation and acceleration will be used to meet the needs of individual students."	Provides an education that meets national, state, and/or local standards
Prepare leaders	ever-chang, prepar, guid, strong, challeng, leadership, healthi	"… shall become a world class model for high performance urban schools preparing all students for academic success and leadership roles in a global society."	Develops leadership skills in students

For a topic to be interpretable, it must be both coherent and substantively distinct (Roberts et al., 2014). The STM model provides a quantitative measure for each. To further consider the choice of k=17, both the semantic coherence, the rate of co-occurrence of high probability words in a topic, and the exclusivity, a measure of the exclusiveness of the most frequently used words in each topic were examined. The k=17 model rated highly on measures of both semantic coherence (9.45 out of 10) and exclusivity (-87.5 in a range between -60 and -140 for all possible models) and when graphed appeared in the top right quadrant of models, signaling high measures for each. Using

these complementary quantitative and qualitative checks, *k*=17 was determined to be the optimal model with the most intuitive topic output among the models *k*=15…20.

Next, generalized linear regressions for each topic were estimated where the outcome is the expected proportion of the topic within the mission statement. Regressions were run for each of the 17 topics, first by sector to examine differences in topic prevalence between sector, and then separately by year to examine differences between topic prevalence in the entire corpus at the two time points. An additional set of regression models were run that included an interaction between sector and year to determine differences within sectors over the two time points for each of the 17 topics.

Results

Summary of Topics

The topics delineated by the model were similar to topics traditionally coded in mission statements with some notable differences. The structural topic model provided greater topic specificity in some areas. Rather than one broad cognitive development topic, the model identified three distinct topics, discussed using the researcher-generated labels *develop thinkers, academic success,* and *achievement and standards*. These are conceptually distinct in that one topic contains words that reference student thinking, another includes more general words that reference academic success and the third contains the words achievement, performance, national, and state in relation to standards. These three topics were characterized by high exclusivity, meaning that the high frequency words in each topic did not overlap.

Similarly, three distinct topics—*change world, responsible citizen*, and *prepare leaders*—were identified that are usually coded together under future or civic outcomes. Each describes student outcomes that these schools seek to foster, representing different ways in which students can contribute as adults: as citizens, as leaders, and as change makers in life and society. Here, too, there was a high degree of exclusivity in the most frequent words found in these topics; none of the top words demonstrate overlap in topic.

As opposed to a single religious or spiritual code, the STM model surfaced four conceptually distinct topics related to religious schools: *Catholic, Christ-centered, faith formation,* and *know Christ*. The first two describe distinct types of education. The topic *Catholic* includes words such as tradition, spirituality, values, church, and specifically the word "Catholic" to describe the type of education being offered. Similarly, the topic *Christ-centered* uses the term "Christ-centered" frequently along with references to the Bible and discipleship. These topics are also marked by high exclusivity. Further, although Catholic education could be conceptualized as Christ-centered, the converse is not necessarily true. *Faith formation*, includes high frequency words of faith, family, community, and formation, whereas *know Christ* includes words such as God, Jesus, love, and children. Qualitative readings of the *know Christ* topic suggest that these words are used to describe the personal relationship between students and Jesus that is a specified aim of many Christian schools.

The topic model collapsed some topics previously coded as separate topics. Many mission statements list the specific domains of development—academic, social, emotional, physical—and researchers have coded these as distinct elements in previous studies. The topic model, however, searching for co-occurrences of words as topics, identified a single topic—here labeled as *aspects of development*—that included these disparate domains. Further inspection of the mission statement text confirmed that these domains are nearly always used together and in list format, reflecting a priority for educating the whole child.

Differences between Sectors

Separate generalized linear regressions for each topic predict how much of the topic appears within mission statements using school sector as the main factor of interest (see Table 4 and the figures in Appendix C for coefficient plots). Across school sector, mission statements contain the topic *aspects of development* in similar proportions. The topics *academic success* and *safe learning environment* also appear in similar proportions in three of the four sectors—traditional public, charter, and Catholic—with other private schools including this topic in significantly smaller proportions. Traditional public, charter, and other private schools reference a *changing world* in similar proportions, while Catholic schools use this topic in significantly smaller proportions.

Traditional public school mission statements include the topics forming *responsible citizens* (0.14), community *working together* (0.11), and *believe all students can learn* (0.05) in the highest proportions, with statistically significant differences compared to the other sectors. Public schools also have the highest proportions of the topics *develop thinkers* and provide *life skills* but these are not significantly different from the charter sector.

Charter school mission statements contain the highest proportions of the topics *achievement and standards* (0.16) and *preparing leaders* (0.12), with significant differences compared to the other sectors. Charter schools also have the highest proportions of the topics meeting the needs of *every child* and helping students reach their *full potential*, but these are not significantly different compared to topic proportions for the traditional public sector.

Catholic school mission statements used the topic *Catholic* in higher proportions, with references to the ministry of the church, tradition, and the words Catholic education. On average, nearly one-fifth (0.19) of the text in a Catholic school mission statement references the topic *Catholic*. Catholic school statements reference *faith formation* similarly, with another one-fifth (0.20) of the mission statement dedicated to forming students in the Catholic faith through participation in the parish community, prayer, spirituality, and service. Words identified in these topics are present in smaller proportions in the mission statements for other private schools.

The other private category in Indiana includes a high proportion of Protestant Christian schools—specifically Lutheran and independent evangelical and ecumenical schools—reflected in the topics used. Roughly one-third (0.32) of a mission statement in this sector includes explicit discussion of education as *Christ-centered*. Similarly, the topic *know Christ* captures a common element of evangelical Protestantism, developing a personal relationship with Christ (Sikkink, 2018; Wagner, 1990). Roughly one-fifth (0.21) of a mission statement in the other private sector reflect this *know Christ* topic. These topics are present in smaller proportions in the Catholic sector and do not appear in traditional public or charter school mission statements.

Differences over Time

Separate regressions for each topic where time serves as the variable of interest surfaced only two statistically significant differences in the use of topics over time. The topic community *working together* decreased across the text of the entire corpus while the topic *Christ-centered* increased across the entire corpus. These differences, while statistically significant, are small and decrease or increase by an expected proportion of 0.03 (see Table 4). Separate regressions modeling an interaction between school sector and time for each topic resulted in statistically significant differences within sector over time for only two topics: *faith formation* in the Catholic sector and *know Christ* in the other private sector. Within the Catholic sector, the expected topic proportion of *faith formation* increased by 0.06 over the time period. The topic *know Christ*, however, decreased within the other private sector by 0.10 (see Table 5).

Table 4

Regression Estimates for Sector and Time (n=902)

Topic proportion (Outcome)	Differences between sector				Differences over time	
	Intercept (Public)	Catholic	Charter	Other private	Intercept (Pre-voucher)	2016–17
Christ-centered	0.00 (0.00)	0.06*** (0.00)	0.01 (0.02)	0.32*** (0.02)	0.01 (0.02)	0.03* (0.01)
Change world	0.06*** (0.01)	-0.03** (0.01)	-0.02 (0.02)	-0.01 (0.01)	0.02 (0.01)	0.02 (0.01)
Every child	0.07*** (0.01)	-0.04*** (0.01)	0.06* (0.03)	-0.04** (0.01)	0.04* (0.02)	0.01 (0.01)
Aspects of development	0.07*** (0.01)	-0.01 (0.01)	-0.03 (0.02)	-0.03* (0.01)	0.08*** (0.01)	-0.01 (0.01)
Working together	0.11*** (0.01)	-0.10*** (0.01)	-0.11*** (0.02)	-0.10*** (0.01)	0.12*** (0.02)	-0.03* (0.01)
Develop thinkers	0.07*** (0.01)	-0.05*** (0.01)	-0.04 (0.02)	-0.06*** (0.01)	0.07*** (0.01)	-0.01 (0.01)
Full potential	0.09*** (0.01)	-0.06*** (0.01)	0.05 (0.03)	-0.05*** (0.01)	0.06*** (0.02)	0.01 (0.01)
Life skills	0.07*** (0.01)	-0.05*** (0.01)	-0.02 (0.03)	-0.06*** (0.01)	-0.06*** (0.02)	-0.00 (0.01)
Safe environment	0.11*** (0.01)	-0.04*** (0.01)	0.01 (0.03)	-0.08*** (0.01)	0.11*** (0.02)	-0.01 (0.01)
Responsible citizen	0.14*** (0.01)	-0.09*** (0.01)	-0.11*** (0.03)	-0.12*** (0.02)	0.14*** (0.02)	-0.02 (0.01)
Believe can learn	0.05*** (0.01)	-0.03* (0.01)	-0.05* (0.02)	-0.05*** (0.01)	0.06*** (0.02)	-0.01 (0.01)
Catholic	0.00 (0.00)	0.19*** (0.01)	0.02 (0.02)	0.09*** (0.01)	0.04* (0.02)	0.01 (0.01)
Academic success	0.06 (0.01)	0.00 (0.01)	0.02 (0.03)	-0.04*** (0.01)	0.07*** (0.01)	-0.00 (0.01)
Faith formation	0.00 (0.00)	0.20*** (0.01)	0.01 (0.02)	0.09*** (0.02)	0.04* (0.02)	0.01 (0.01)
Know Christ	0.00 (0.00)	0.12*** (0.01)	0.00 (0.02)	0.21*** (0.02)	0.05** (0.02)	0.00 (0.01)
Achievement and standards	0.07*** (0.01)	-0.07*** (0.01)	0.09* (0.04)	-0.05*** (0.02)	0.02 (0.02)	0.02 (0.01)
Prepare leaders	0.02*** (0.00)	-0.00 (0.01)	0.10*** (0.02)	-0.01* (0.01)	0.03 (0.01)	-0.00 (0.00)

Note. Results from separate regressions of single covariates predicting topic proportions with other covariates in model held at median values. * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

Table 5

Regression Estimates for Statistically Significant Interaction Effects (*n*=902)

Subhead	Faith formation	Know Christ
Catholic	0.10*	0.13***
	(0.04)	(0.01)
Charter	0.04	-0.00
	(0.08)	(0.04)
Other Private	0.13*	0.38***
	(0.06)	(0.07)
Year	0.00	-0.00
	(0.01)	(0.01)
Catholic*Year	0.06*	-0.01
	(0.03)	(0.02)
Charter*Year	-0.01	-0.01
	(0.04)	(0.02)
Other Private*Year	-0.02	-0.10*
	(0.03)	(0.04)
Intercept	0.00	0.00
	(0.01)	(0.04)

Note. Results from separate regressions of interactions predicting changes in topic proportions within sector over time. Only statistically significant interaction effects presented. * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests)

Discussion

Compared to previous mission statement analysis (Stemler et al., 2011; Weiss & Piderit, 1999), the topics found in the Indiana corpus align with previous coding, but the automated STM model grouped some topics together and provided further distinction between topics in some areas. The STM also allowed for the estimation of differences in topic use to be compared by sector. Statements referenced the topics of *academic success, aspects of development, change world*, and *safe learning environment* in similar proportions across sector, but distinct differences emerged in the use of other topics.

Traditional public school mission statements had higher expected proportions for topics that spoke to broad social goals of schooling, such as forming *responsible citizens*, *working together* within the community, and included topics such as providing *life skills*, *developing thinkers*, meeting the needs of *every child*, and helping students reach their *full potential* in similar proportions to charter schools. While there were no within sector changes over time in this sector, the topic that decreased within the entire corpus over time, community *working together*, had the highest expected proportions in the public sector, suggesting there may be some effort to focus statements more tightly in this sector. Within the public school sector, there were no increases in topics related to achievement and

standards, which is somewhat surprising during a time period in Indiana marked by accountability in the form of school letter grades based on test scores and the threat of intervention by the state for poor academic performance (IDOE, n.d.).

Charter school mission statements included *preparing leaders* and a focus on *achievement and standards* in the largest proportions, suggesting that these schools are focusing on student outcomes. Charter school mission statements share some common topics with the public sector—*life skills, developing thinkers, every child,* and *full potential*—but the charter sector focus on meeting or exceeding standards and on the individual suggest an appeal to families who feel that traditional public schools have not met their needs and also speak to central ideas behind the charter movement (Teasley, 2009). Charter schools, the most recently established sector of schools in Indiana, did not appear to substantially revise their mission statement content over this time period. This is likely because many were in their first years of operation; the number of charter schools in Indiana increased from 11 to 21 between 2012 and 2013 due to the expansion of charter legislation (Elliott, 2013).

Catholic school mission statements included broad topics found in other sectors, including topics found in public and charter sectors, including *academic success, safe learning environment*, and *aspects of development.* Catholic school mission statements also included high proportions of two religious focused topics—*Catholic* and *faith formation*—describing both the religious environment and instruction offered by the school. Catholic school mission statements continue to appeal to a specific group of parents seeking education in a religious environment. Rather than feeling pressured to change their mission to be more like public options in the acceptance of choice funding, Catholic schools appear to be doubling-down on the faith elements of their mission, particularly the faith formation aspect, what the sector would describe as the Catholic identity of the school (Bryk et al., 1993; Convey, 2012). Catholic identity includes the relationship with the parish community, a focus on Catholic prayer and spirituality, and integration of Catholic ritual, practice, and tradition in the educational endeavor. The increase in the use of the *faith formation* topic appears to signal (Morphew & Hartley, 2006) Catholic schools' reason for existence as a ministry of the Catholic Church.

The other private sector included a high proportion of independent Christian schools and mission statements from this sector contained high proportions of two different religious topics—*Christ-centered* education and helping students *know Christ.* These statements also demonstrated less of a focus on *academic success*, echoing previous work done on evangelical Christian schools where academics are considered an important but secondary focus (Sikkink, 2012; Wagner, 1990). The one topic that increases over time within the entire corpus is the *Christ-centered topic*, which again signals a religious environment. A within sector change—a decrease in the *know Christ* topic—provides some evidence that these schools may be downplaying certain elements of a focus on personal discipleship. While not changing their missions per se, schools in this sector appear to be shifting focus to a more ecumenical description of the *Christ-centered* environment.

Limitations

It should be noted that these comparisons are descriptive rather than causal and the current study is not able to control for other factors within and among the sectors that may have influenced mission statements over this period. For example, the clarification of religious aspects in private school missions during this time may also be related to the U.S. Supreme Court Case *Our Lady of Guadalupe School v. Morrissey-Berru,* which was progressing through the courts around the time of this study and focused on religious schools' ability to base hiring decisions on ministry and mission. Other influences related to religious community or denomination not directly related to school choice may also be reflected in these findings.

Further, findings presented here are specific to the time period and the policy landscape of the state of Indiana. Although able to consider the content of schools' public statements, this study also cannot provide evidence for how schools are or are not enacting their stated missions and whether choice policy has wrought significant changes on what happens within the different sector schools. Despite these limitations, the descriptive differences in mission provide an indication of school sector priorities and offer some investigation into the distinctive nature of schooling options available in a state with robust parental choice policies.

Conclusion

This work provides suggestive evidence that there are and continue to be distinct descriptive differences in school mission by sector and that religious schools' stated missions include an increased proportion of religious language in the presence of school choice policies. Prior research suggests that private school leaders have expressed reservations about accepting public funds in exchange for greater regulatory responsibility (DeAngelis et al., 2019, 2021; Kisida et al., 2015) and that private, religious school leaders were initially wary about participating in the ICSP for fear of losing their distinctive school culture and identity (Austin, 2015). This analysis suggests that religious schools have not lost or abandoned their religious identities in the presence of state-funded choice programs but rather are engaging in more explicit signaling in their mission statements. This may be in an effort to be more transparent about the religious culture of the school and the school's commitment to religious aspects of mission, particularly because parents using choice have reported religious environment and instruction as one of the most important factors in selecting their current school (Catt & Rhinesmith, 2017).

Rather than having to downplay the religious aspects of mission in a landscape of choice, religious schools appear to be emphasizing them. This emphasis may be an attempt to assure returning families that the school's objectives have not changed, to ensure that prospective families have a clear sense of what religious schooling encompasses as they choose a school, and to attract new families interested in religious schooling. As an external message of school priorities and objectives, school mission statements appear to serve as a means for schools to share important information for parents to consider during school selection. These statements also offer a measure of confidence to those in the school communities that the essential purpose of religious schools has not been affected by acceptance of public funds.

However, the absence of considerable change in mission statements over this period may have slightly different implications for policymakers. The lack of substantive change in traditional public and charter school mission statements may suggest that school choice programs, namely legislation to establish charter schools and provide choice scholarships, may not be fulfilling the ideals behind them: to increase innovation and competition between schools to improve student outcomes (Walberg & Bast, 2033). It is also likely the case that mission statements may not offer the best means for judging the effectiveness of school choice policies. For example, there is growing evidence that public school students located in areas of substantive school choice have improved learning gains (Adger & Felegi, 2023; Figlio et al., 2020; Gilraine et al., 2021). Further examination of what is going on inside of schools (e.g., how they structure teaching and learning, how they are using their material and human resources) may provide better indicators of how schools are changing and what changes are most effective in the presence of choice programs. Continued attention to these questions of how school choice policies affect the organization of schools is needed as these policies are monitored and evaluated in the near and distant future.

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APPENDICES

Appendix A

Detailed Steps in Determining Value of k in Structural Topic Modeling (STM)

Apply un-supervised machine learning (STM) to data

Choose range for topics *k* based on prior research

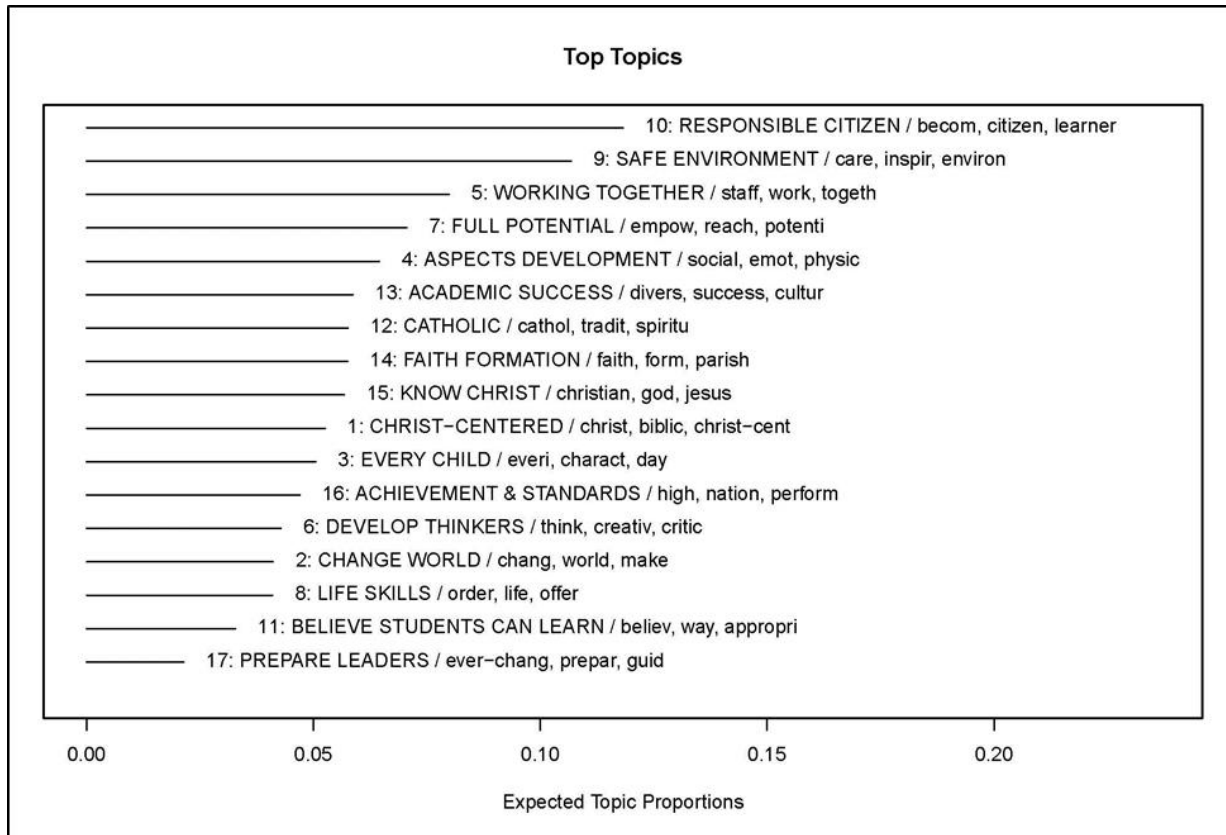STM forms topics based on statistical model of language at each value of *k*

Compare high frequency and probability words of topics at different values of *k*

Choose value *k* that has greatest breadth of intuitive topics with least overlap of words and ideas

Examine text to verify consistency of topics

Develop a qualitative label for each topic

Confirm choice of *k* using model output, looking for measures in the optimal ranges for topic exclusivity and semantic coherence

Images: iStock.com/SirVectorr

Appendix B

Topics and Expected Within Statement Topic Proportions for the Entire Corpus of Statements

Top Topics

10: RESPONSIBLE CITIZEN / becom, citizen, learner
9: SAFE ENVIRONMENT / care, inspir, environ
5: WORKING TOGETHER / staff, work, togeth
7: FULL POTENTIAL / empow, reach, potenti
4: ASPECTS DEVELOPMENT / social, emot, physic
13: ACADEMIC SUCCESS / divers, success, cultur
12: CATHOLIC / cathol, tradit, spiritu
14: FAITH FORMATION / faith, form, parish
15: KNOW CHRIST / christian, god, jesus
1: CHRIST–CENTERED / christ, biblic, christ–cent
3: EVERY CHILD / everi, charact, day
16: ACHIEVEMENT & STANDARDS / high, nation, perform
6: DEVELOP THINKERS / think, creativ, critic
2: CHANGE WORLD / chang, world, make
8: LIFE SKILLS / order, life, offer
11: BELIEVE STUDENTS CAN LEARN / believ, way, appropri
17: PREPARE LEADERS / ever–chang, prepar, guid

0.00   0.05   0.10   0.15   0.20
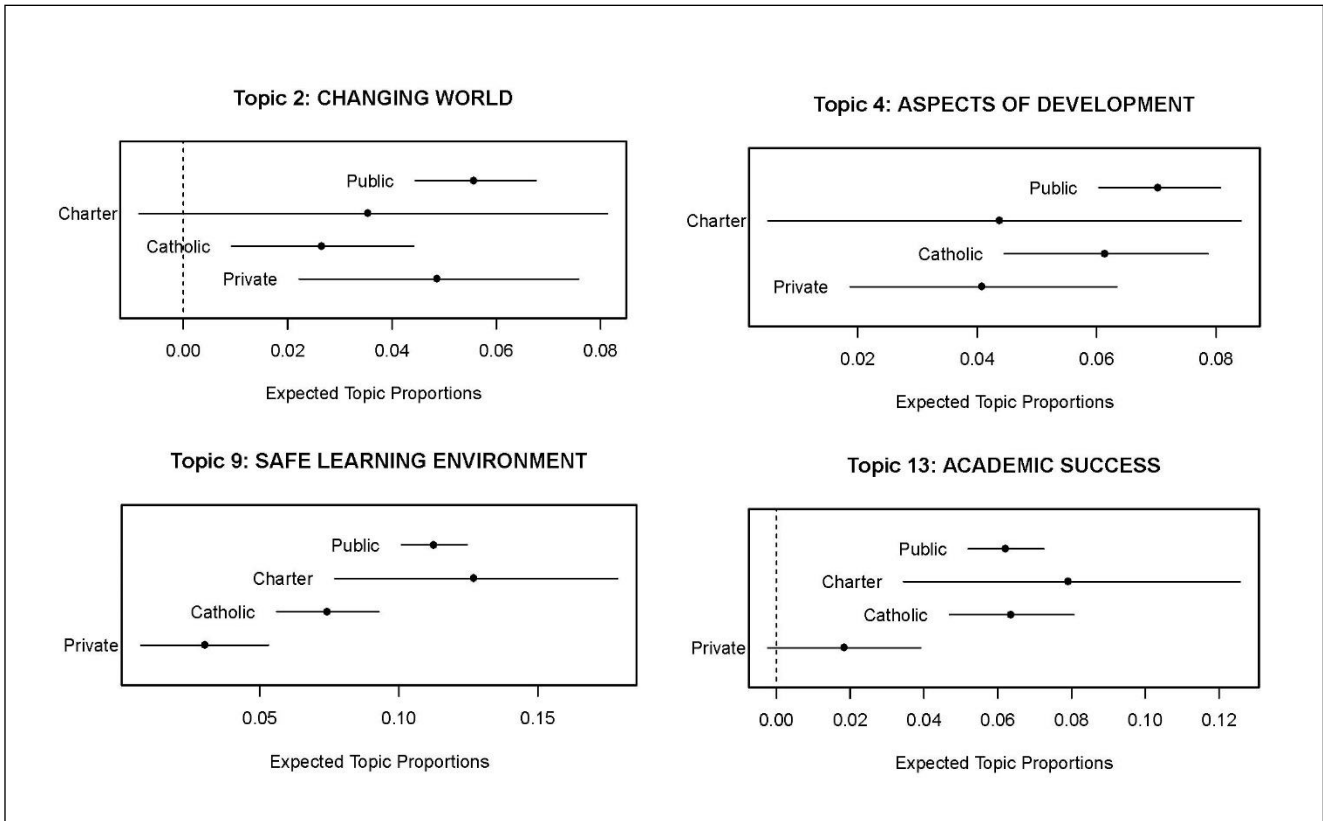
Expected Topic Proportions

Appendix C

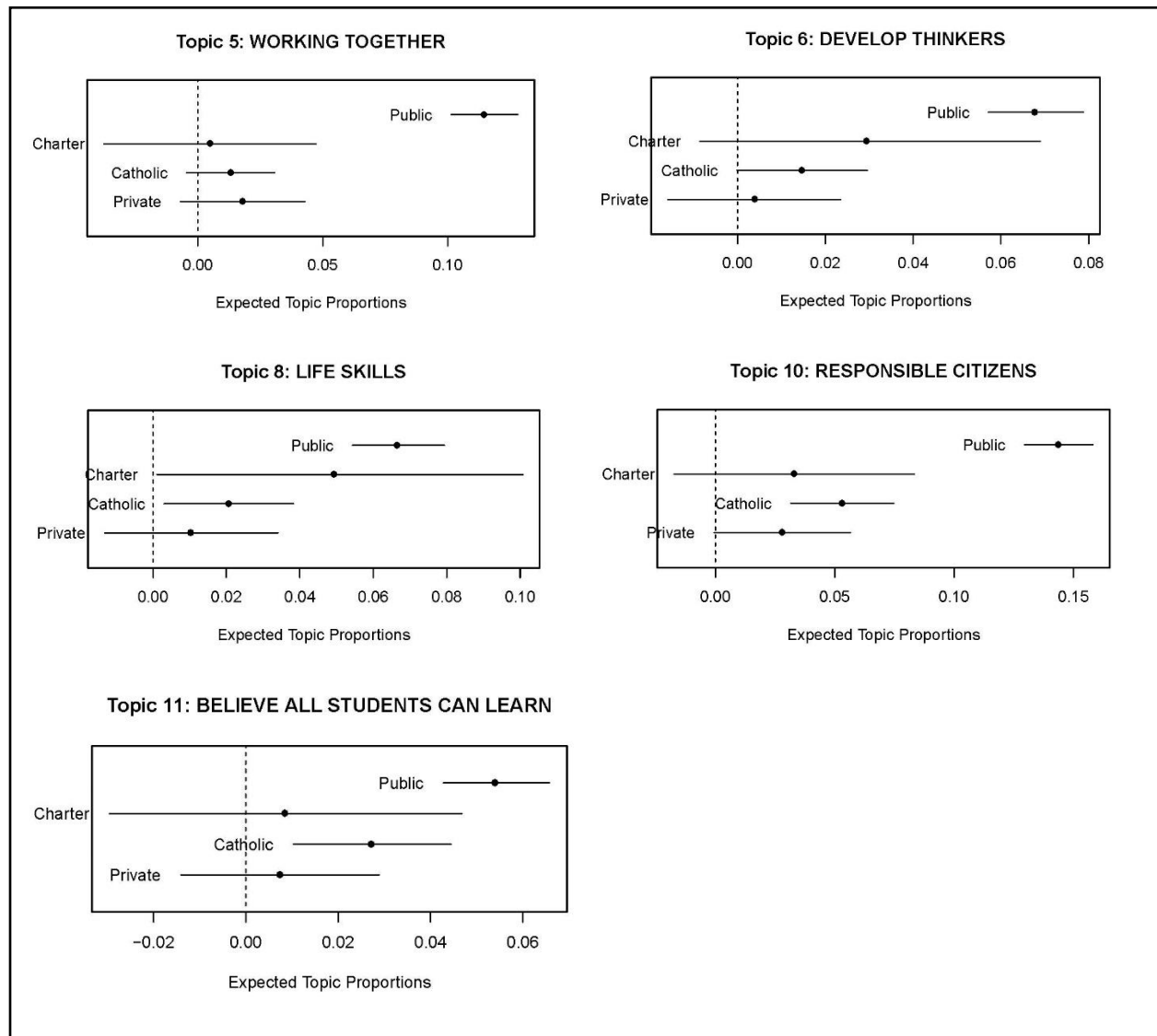*Supporting Regression Plots*

Figure C1

Regression Plots for Topics with Few Statistically Significant Differences by Sector

Note. Outcome is the expected proportion of the topic contained in the mission statement.
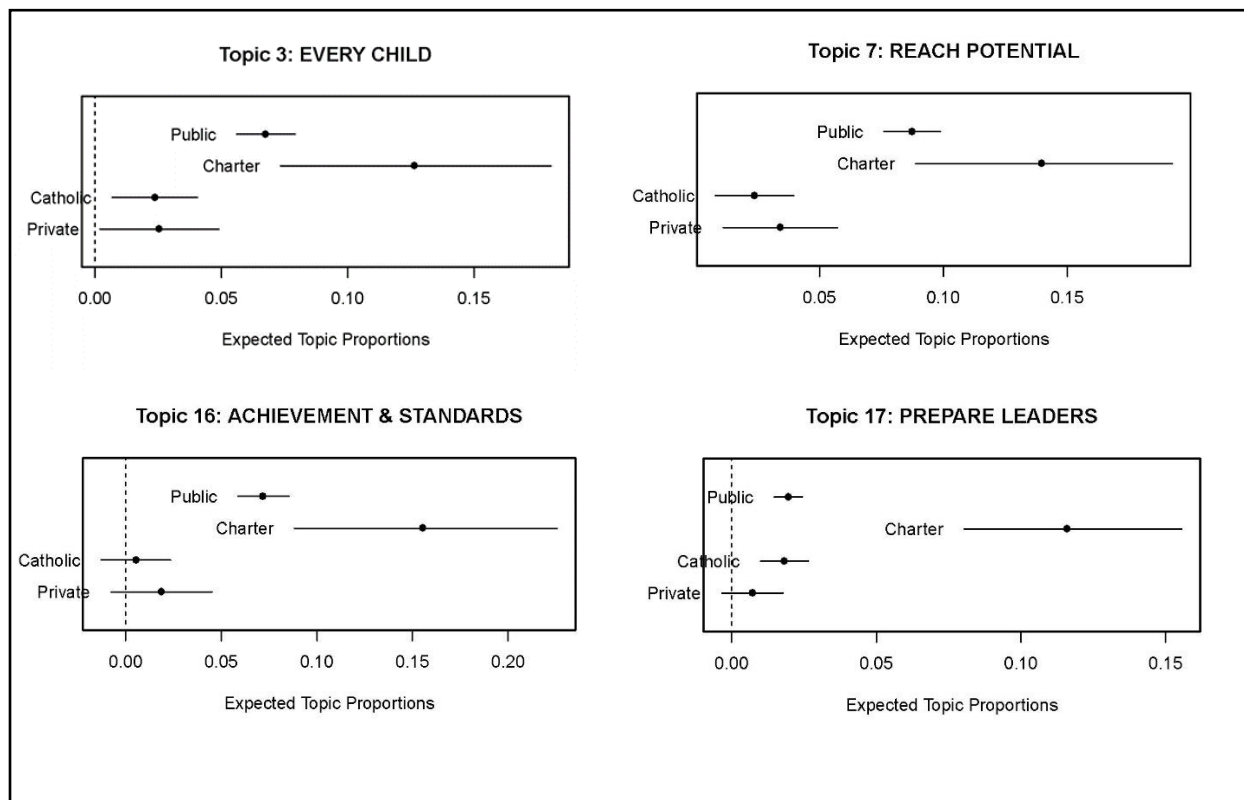
Figure C2

Regression Plots for Topics with the Highest Point Estimates for Public Schools

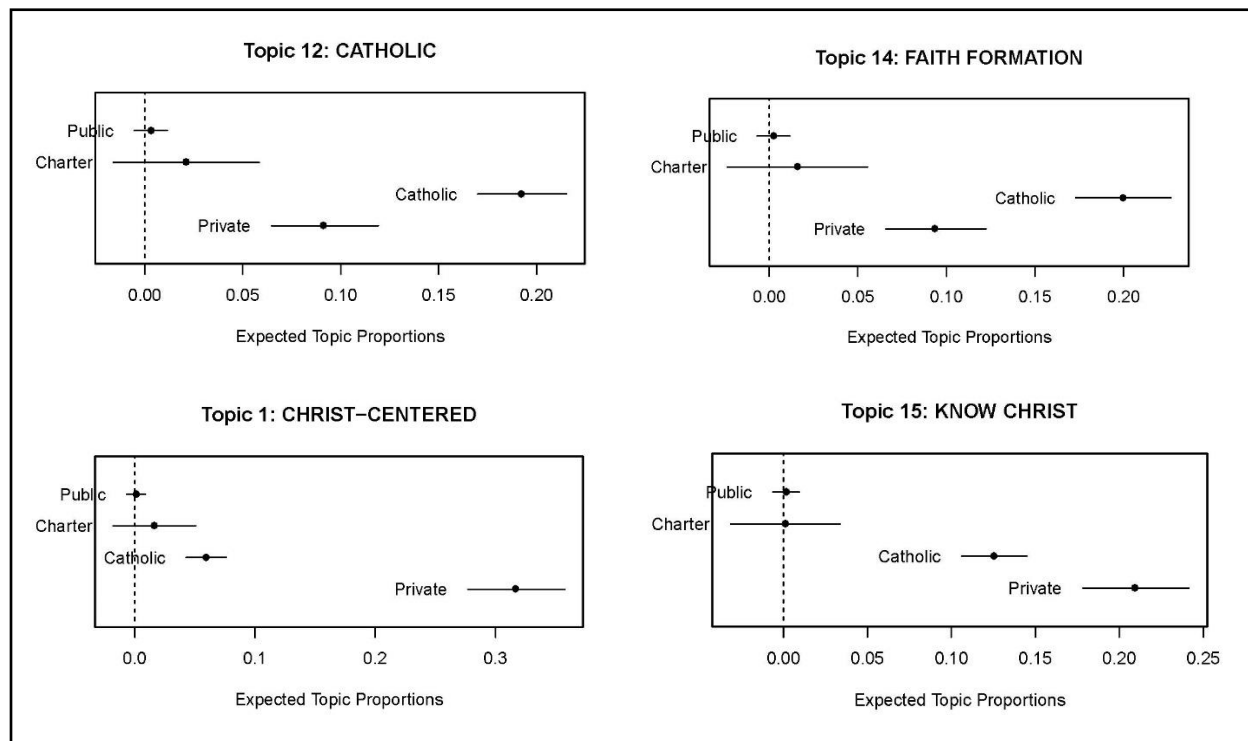*Note.* Outcome is the expected proportion of the topic contained in the mission statement.

Figure C3

Regression Plots for Topics with the Highest Point Estimates for Charter Schools

Note. Outcome is the expected proportion of the topic contained in the mission statement.

Figure C4

Regression Plots for Topics with the Highest Point Estimates for Catholic and Other Private Schools

Note. Outcome is the expected proportion of the topic contained in the mission statement.