



# Exploring the Role and Effects of High School Advising on CTE Students' Transitions to Postsecondary Education and the Workforce



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**Abstract:** This paper presents a synthesis of three collaboratively conducted studies exploring the relationship between career-focused advising and the postsecondary transition with an emphasis on students enrolled in Career and Technical Education (CTE). The studies included a survey administered to high school seniors in New York City schools, an impact study of career coaches in North Carolina, and a qualitative study looking at implementation of advising in New York City and North Carolina. Key themes coming from the three studies included: 1) postsecondary transition advising is a schoolwide phenomenon; 2) the content and intensity shifts over a student's time in high school; 3) advising tends to focus more on college with less attention paid to career opportunities except in settings with an explicit career emphasis; 4) students with more advantaged backgrounds tend to participate in advising at higher levels; 5) higher participation in advising is associated with an increase in CTE-related activities; 6) college-focused advising is associated with higher enrollment in four-year schools while career-focused advising is associated with higher enrollment in two-year and lower enrollment in four-year institutions; and 7) additional research on how advising outcomes differ by student characteristics is needed. This article also summarizes key methodological takeaways about doing research related to advising.

#### **AUTHORS**

**Julie A. Edmunds**, Early College Research Center, UNC Greensboro

**Christine Mulhern**, RAND

**Brian Phillips**, RAND

**Rachel Rosen**, MDRC

**John Sludden**, The Research Alliance for New York City Schools, New York University

**James Kemple**, The Research Alliance for New York City Schools, New York University

**Bryan C. Hutchins**, Early College Research Center, UNC Greensboro

**Emma Alterman**, MRDC

**Cassie Wuest**, MDRC

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## Introduction

High schoolers face many complex and consequential decisions as they navigate towards a career, and understanding and pursuing post-high school options can be especially challenging for students from disadvantaged backgrounds. For example, students from lower-income families often have less access to information about college and careers (Laureau, 2011), and they are less likely to enroll in dual enrollment programs and postsecondary education (Miller et al, 2018; de Brey, Snyder, Zhang & Dillow, 2021). School-based advisors are key resources for helping students navigate educational and career pathways; they are particularly important for those students who come from lower-income or under-represented minority backgrounds (Sattin-Bajaj, 2018; Mulhern, 2023). Despite their importance, there is little research about how advisors work with students enrolled in Career and Technical Education (CTE) to manage their post-high school transition. Our research aims to fill this gap by understanding the presence, variation, and short-term impact of school-based college and career advising on students' postsecondary outcomes with a focus on the CTE context.

To contribute to the research on CTE advising, four organizations—the Early College Research Center at UNC Greensboro (UNCG), the New York City Research Alliance at New York University (the Research Alliance), MDRC, and RAND—collaborated on three studies that explored career-oriented advising from different perspectives. The first study, conducted by the Research Alliance, used survey data from high school seniors in New York City to look at the relationship between students' advising experiences and student outcomes (Sludden & Kemple, 2024). The second study, conducted by RAND and UNCG, was an impact and implementation evaluation of a career coaching program in North Carolina (Phillips, Mulhern, Hutchins & Edmunds, 2024). The third study, conducted by UNCG, MDRC, and the Research Alliance, was a qualitative study exploring student and staff experiences with advising in North Carolina and New York City. (Hutchins et al, 2024). Collectively, the three studies were intended to answer research questions related to the (1) structure and content of advising and the extent to which that varied over students' time in high school, (2) the extent to which advising varied by students' background characteristics, (3) the relationship between advising and school culture and structure, (4) the extent to which advising affects students' secondary activities and their postsecondary decisions and (5) the extent to which that relationship varies by student and school characteristics. Individually, each study contributes substantially to the literature on advising<sup>1</sup>; synthesizing across the three studies allows us to identify core cross-cutting themes related to advising for CTE students and career-oriented advising, as well as key takeaways related to conducting research in this area.

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<sup>1</sup> Highlights from each study are included in this paper; the individual reports, which are listed in the references, provide much more detail about the methods and findings.

## Literature Review and Conceptual Framework

A successful post-high school transition is at least partially dependent on the formal and informal advising that students receive (McDonough, 2005; Perna et al, 2008; Sattin-Bajaj et al., 2018). High school students receive information that informs their decisions about what to do after high school from a variety of sources, including family, friends, teachers, counselors, and other school staff, with over half of students reporting that they received information from teachers and counselors (Griffin, Hutchins, & Meece, 2011).

There is little evidence about advising for CTE students specifically, and educators and policymakers are generally not confident that CTE students are well served by their counseling and advising system (Advance CTE, 2018). High school counselors typically serve many students, with average caseloads well over the 250-threshold recommended by the American School Counselor's Association (2016), and many counselors do not have training on how to provide career or CTE advising (Clinedinst & Patel, 2018). Relatedly, while CTE programs continue to grow, and policies such as the Perkins Act, most recently reauthorized in 2018, seek to improve postsecondary transitions, little is known about how to best support CTE students through their pathways and facilitate their transition to postsecondary education and the workforce (Dougherty & Lombardi, 2016). Furthermore, research into advising for CTE students specifically is outdated (Dougherty & Lombardi, 2016).

In this paper, we focus on advising activities that are under the control of the school. School-based advising on postsecondary transitions can take a variety of forms. School counselors are a primary source of information, and research suggests that effective counselors can make a difference in students' educational attainment (Hurwitz & Howell, 2014) by providing students with information and direct assistance (Mulhern, 2023). In addition to counselors, schools often have other roles that support advising, such as individuals dedicated to helping students make the transition to college or supporting career-oriented advising (Clayton, 2019; Nachman, Maldonado, Hartman, & Deal, 2023). Teachers can often play an informal advising and mentoring role (Kraft, Bolves, & Hurd, 2021) and are considered an important source of information (Griffin et al., 2011). Schools are also using more and more technology-enhanced advising systems, such as Naviance, which have been associated with positive outcomes (Mulhern, 2021). There is very little research, however, on how these structures work with CTE students or provide advising relative to careers.

Broadly, school counselors provide "help in one-on-one sessions...at the request of students" (Stephan, 2013, p. 6). This model is resource intensive and the fact that it "requires student initiative to receive help can fail to reach disadvantaged students, who can be uncomfortable seeking out or receiving help or may not know when they need help" (Stephan, 2013, p. 6). As a result, students' backgrounds likely have a relationship with the amount and kind of advising that students receive.



Research suggests that key advising topics related to postsecondary transitions include the following: guidance around course scheduling; information about postsecondary and career options; and providing direct services, such as helping students complete forms or apply for fee waivers (Mulhern, 2023). A survey of high school counselors found that about 60 percent reported connecting students with CTE coursework or career pathways, and a higher share believed that this was a highly effective approach for supporting students' development (Advance CTE, 2018).

Building on the literature, the research team developed an initial Theory of Change for Advising for CTE Students. At the end of the three studies, we revisited our theory to see if there was anything we would change as a result of what we learned from our studies. We determined that the Theory of Change was accurate, although we needed to emphasize student motivation more explicitly as a background characteristic that affects how students interact with advising.

Figure 1 shows the final Theory of Change for CTE Advising. As the graphic shows, advising changes over time. Advising in earlier grades is intended to both provide information about and guide students' career awareness and interest, their high school coursetaking, as well as their participation in CTE-related activities such as work-based learning. In later grades, advising focuses more closely on the specific steps associated with the post-high school transition as students make decisions to either go directly into the workforce or to pursue postsecondary education.

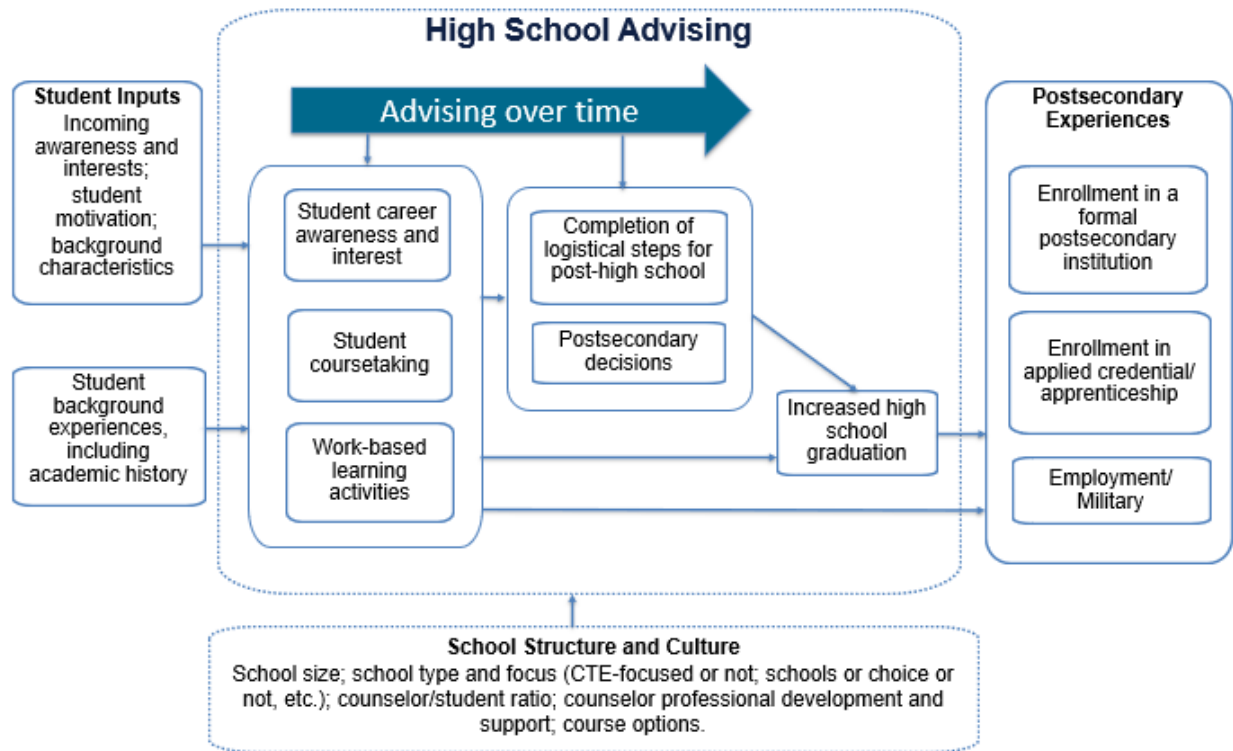
Students' participation in advising and other activities are also impacted by their own characteristics as well as the other supports or barriers put in place by the school. Students' responses to advising are affected by their incoming awareness and interest, their motivation, their background characteristics, and their previous experiences, including their academic history. Both the advising and students' high



school experiences are also affected by the school culture and structure, including school size, type of school, amount of advising offered, course options, and professional development

provided to counselors/advisors. Our studies were intended to explore many of the relationships laid out in this Theory of Change.

Figure 1: Theory of Change for Advising for CTE Students



## Methods

The overarching project consisted of three sub-studies conducted through collaboration among four different organizations. The focus of these studies was on understanding the advising experiences of CTE students. Identifying CTE students posed some challenges given the varying definitions of CTE participation, ranging from taking a single course to attending a CTE-focused school. In North Carolina, where the most common implementation of CTE is in regular high schools, the vast majority of students take at least one CTE course during their high school career and thus almost every student in the state could be considered a CTE student. In New York City, CTE can be implemented in both regular comprehensive high schools and in CTE-focused high schools. Given this situation, we took a broader approach to our study, looking at postsecondary transition advising and the extent to which it emphasized career readiness. Where possible, we also determined whether postsecondary transition advising differed for students who had a CTE emphasis or were enrolled in CTE-focused high schools. As a result, the findings from these studies have broader implications than for CTE students.

The three studies were intended to collectively answer the following research questions specifically focused on school-based advising around the postsecondary transition:

- How is school-based postsecondary transition advising structured (role type, delivery mode, frequency)? How does the structure change across grades?
- What topics do advisors cover relative to preparation for the postsecondary transition? How do those change over time? To what extent do these topics focus on career readiness?
- How do students' backgrounds affect their advising experiences? Does access to advising vary by student characteristics?
- How do the school culture and structure—including the overall emphasis on CTE—affect the advising experience? In what ways do school policies and structures affect access to advising for certain populations?
- How does advising influence the CTE-related activities students do in high school that are associated with postsecondary decisions (e.g., CTE course-taking, work-based learning participation)?
- How does advising affect students' postsecondary decisions?
- Does the relationship between advising and student outcomes differ by students' backgrounds or school characteristics?

While each study could not answer every question, they all brought insights relevant to most of the research questions.

Because the emphasis in this paper is on the collective insights garnered across the projects, we summarize the methods for each project at a relatively high level. Table 1 below provides a summary of the school samples and context across the three studies and it is followed by general descriptions of the methods for each study. Citations are provided for those who wish to go into additional depth for each individual project. We conclude the methods section by discussing how we developed our synthesis themes.

**Table 1: School Samples and CTE Context Across Studies**

	Survey Study Sub-Study 1	Career Coaching Impact Study Sub-Study 2	Qualitative Study Sub-Study 3	
Location	NYC	NC	NYC	NC
Schools (n)	176	371	9	8
School Type				
CTE HS	27	0	2	0



	Survey Study	Career Coaching Impact Study	Qualitative Study	
Comprehensive HS that offers CTE programming	52	371	0	6
Other traditional HS with no CTE programming	97	0	0	0
Early College HS with CTE focus	0	0	7	1
Early College HS with no CTE focus	0	0	0	1

**Notes:** Identifying a consistent understanding of CTE focus is challenged by different definitions and standards across schools in different policy contexts. In New York State, our references to CTE refer to CTE programs of study. These programs of study include three or more course sequence in the same industry area, appropriately certified teachers, access to work-based learning, and courses that lead to technical certifications (see, e.g., Kemple et al, 2023). In North Carolina, all comprehensive high schools offer CTE programming, although smaller specialized schools may not offer it.

## Survey Study

This exploratory study examined students' experiences with college- and career-related advising and their connection with postsecondary outcomes as well as the extent to which these findings differed for students in CTE and non-CTE high schools and for students of different backgrounds. The study used data from the 2018 administration of New York City Public Schools' Senior Exit Survey. The survey was administered in the spring to seniors in 268 high schools participating in the city's College Access for All Initiative, an initiative that provided funding and capacity to schools to assist with college and career planning. The final sample in the analyses included 9,025 seniors in 172 high schools that responded to the survey (approximately 55% of those in the surveyed high schools).<sup>2</sup> We used existing survey items to create three different scales:

*General Support for Postsecondary Planning.* Four survey items asked students whether they discussed college or career plans with a school counselor in grades 9, 10, 11, and 12.

<sup>2</sup> The research team removed from the sample respondents from non-traditional public high schools (e.g., transfer and charter high schools), and schools with fewer than 15 respondents. More details on our sample specifications can be found in the full report.

*Support for College Planning.* Thirteen survey items asked students about specific supports and experiences aimed at helping students prepare for a transition to college. This was further broken out into two measures—one that focused on exploration and application-related support (e.g., extent to which the school helped students understand what is needed to be ready for college or helped students complete applications), and one that focused on specific experiences related to college planning (e.g., whether students did specific activities with their school like attending a college fair, visiting a college).

*Support for Career Planning.* Eight items asked students about specific supports and experiences aimed at helping students prepare for careers. We also broke this into two measures focused on exploration-related support (e.g. learning about different careers or creating a resume) and on specific career experiences (e.g., participating in an internship, having a job, having someone come to the school and talk about careers).

The analyses were primarily descriptive and correlational in nature. We looked at the levels of support received in CTE and non-CTE school settings, and by students of different backgrounds. We also looked at the extent to which different levels of support were associated with student outcomes including graduating from high school and enrolling in postsecondary education. Additional detail on the study methods and the specific findings for the survey study can be found in Sludden and Kemple (2024).

## **Impact of Career Coaching**

This study examined the implementation and the impact of a state-funded career coaching program in North Carolina on students' secondary and postsecondary outcomes. The intervention provided high schools with a coach from the local community college who worked with individual students and groups of students to help with career planning, provide guidance around courses (particularly dual enrollment), and assist in navigating career options.

The impact study used two different designs to look at the impact of the program. The first looked at impacts using a school-level definition of treatment and used an event study model in which students at schools that received coaches were compared to both students at those schools prior to the school receiving the coach as well as to students at comparison schools that never received a coach. The second design was done at the student level and used student participation data from coaching reports to identify students who interacted directly with coaches. The outcomes for those students were then compared to the outcomes for students in non-participating schools who were statistically weighted to closely resemble the treatment students. Both studies drew on data from a statewide administrative dataset that linked data from K-12, the North Carolina Community College System, the University of North Carolina System, and the National Student Clearinghouse.

We also collected implementation data around the characteristics of participating students and schools, and the activities of coaches. Additional detail on the study methods and the specific findings for the career coaching study can be found in Phillips et al. (2024).

## **Qualitative Study**

This study explored in more depth the structure and content of advising and student and staff experiences with advising. The teams conducted interviews and/or focus groups in a total of 17 schools in North Carolina and in New York City. In North Carolina, the research team conducted interviews with staff and students in six comprehensive high schools and in two early colleges—one of which had a career focus. In New York City, the research teams conducted staff interviews at seven P-TECH schools (small schools that have an emphasis on work-based learning and dual enrollment) and two CTE-focused high schools; the team was also able to conduct student focus groups in two of the P-TECH schools (see Table 1 for school sample).

The interview protocols included questions about who provided advising to students, the content that was covered in the advising, how advising related to secondary and postsecondary activities and choices, and the extent to which student and school characteristics influenced the advising experience. The interviews were transcribed, and each research team analyzed the information, placing responses into a framework for cross-case analyses. More information about the study methods and specific findings for this qualitative study can be found in the full report (Hutchins et al., 2024).

## **Synthesis Across Projects**

While each project had substantial merit on its own, one of the goals of conducting the three studies in a collaborative manner was to identify the themes that cut across the three studies. Leaders of the research teams met monthly throughout the three years to discuss study implementation, coordinate data collection activities, and share preliminary findings from the studies. When all three studies were mostly complete, the full research teams for the four participating organizations met for two two-hour meetings. Prior to the meetings, the participants received draft findings for each of the three studies. During the meetings, the teams heard presentations for each of the three studies. Participants then used a structured framework aligned to the overarching research questions to identify how each study answered each question. The team flagged commonalities across the studies and identified any areas where the findings differed.

During these meetings, the team also revisited the original Theory of Change and identified broader takeaways beyond the research questions, including methodological issues.

## Results: Cross-cutting Themes

The remainder of this paper focuses on the cross-cutting themes originating from the three studies. It is organized by the overarching research questions. For each research question, we describe the themes, highlighting the relevant findings from each study.

### **Theme #1: School-based advising was offered in a variety of formats.**

Across the three studies, there was a consensus that advising was a schoolwide phenomenon that students might encounter in multiple settings—with different individuals and technologies involved in the advising work.

The qualitative study provided the most detailed information about the structure of advising for CTE students and around the postsecondary transition. There ways in which students received information about the postsecondary transition could be clustered into three primary categories: 1) one-on-one advising with school counselors or other advisors; 2) advising that occurred through courses or advisory classes; and 3) work-based learning, CTE courses, or other career-oriented experiences. Advising was seen as a core responsibility of school counselors, although school staff noted that counselors had large caseloads and many other responsibilities (e.g., course registration, meeting with students in crisis, contacting parents, transcript reviews) that made it hard for them to focus on postsecondary planning. As a result, schools often spread the advising responsibility around to more specialized advisors, such as career coaches, career development coordinators, work-based learning coordinators, or college liaisons. The first main type of advising—one-on-one advising—usually occurred around the time of course selection with the goal of enhancing alignment between students' courses and their postsecondary plans and interests.

The second main type of advising tended to occur as part of structured periods during the school day that were dedicated to providing advising. These formal periods could be sessions within regular classes (e.g., a college information session within an English class), or other dedicated time such as in homeroom or during a special time set aside for advising. These formal periods often provided a structure for schools to use online tools, such as Naviance, that helped guide the postsecondary transition. In some schools, use of the online tools was mandatory; in other schools, it was made available as an optional resource.

The third primary way in which students received information about the postsecondary transition, and specifically careers, was by engaging in experiential learning through their CTE courses or through work-based learning. Students shared that their CTE teachers gave useful advice about careers due to their experience and industry connections, often because the regular counselors were not as well-informed. For example, one student in a comprehensive high school said, "The counselors help with deciding which classes you should take... But when it comes to finding careers in the field, or getting internships, or finding possibilities to go and

talk to someone and just job shadow or anything like that, the teachers really help more in that.” Work-based learning also provided useful insight into different career options; however, there was significant variability in work-based learning opportunities across schools.

Although the career coaching study was focused on a specific model of advising delivery—a career coach—the study uncovered some of the same themes. The study found that numerous individuals were involved in career advising and that the career coaches’ role differed based on the school context and who they worked with. In some settings, coaches were able to collaborate with teachers, counselors, college liaisons and career development coordinators (a state-funded position that provided career advice to students). In other settings, coaches were more isolated, and their work was based on individual relationships with other staff.

The three studies were consistent in showing that advising frequency and intensity tended to increase as students got older and were closer to those postsecondary transitions. For example, findings from the survey study showed that the frequency of postsecondary transition advising increased by grade. Approximately 29 percent of respondents reported talking with someone about college and career plans in 9th grade, increasing to 90 percent in 12th grade. Similarly, as shown in the career coaching study, the coaches tended to give more group presentations to the younger students; for the juniors and seniors, they provided more one-on-one advising and the most common time for coaches to have that first one-on-one meeting with a student was the start of 12<sup>th</sup> grade.

## **Theme #2: The content of postsecondary transition advising, which had a primary emphasis on college, started broadly and became more focused in later grades.**

One crosscutting theme related to the content of postsecondary transition advising was that the primary emphasis was on college, unless the individual doing the advising was specifically tasked with a more career-oriented focus. For example, the survey study found that students reported higher levels of planning and support around college than they did around careers; 62% of students reported strong college support compared to only 29% of students who reported strong career support. Conversely, students in schools that offered CTE programming reported far higher levels of career support and similar levels of college planning, indicating that this additional career planning did not come at the expense of college planning for these students.

Results from the qualitative study also found that advisors tended to emphasize college more, although they tried to recognize the variety of pathways that students might choose. For example, one student in a focus group commented,

I think that they [school staff] all want to motivate the students to go to college, but everyone knows that some students, that's just not their goal. So, I think they're trying



to get you, 'Hey, you should go to college on this.' And if a student really doesn't see that in their future, they're also there to help them for "What can you do without going to college?" or 'What do you plan on doing because you're not going to college?'

Not surprisingly, individuals with an explicit career-oriented role did their advising through a career lens. For example, the NC career coaches had a more specific emphasis on careers, given their roles. The content of their advising varied, depending on what other adults in the building were providing. They often administered career interest inventories to help students identify potential careers and would then provide course suggestions that were related to those careers. It is important to note that the career coaches were community college employees and, as such, were more familiar with the options at their local community college.

The studies also found that the content of the advising varied over time, following a developmental arc. The career coaching and qualitative studies found that advisors for the younger grades focused on more exploration and awareness building, including career interest inventories and surveys or sharing opportunities for work-based learning. In the later years, the content was more specifically focused on giving students support around the specific logistical steps for the next transition, which generally emphasized college. One student in a P-TECH school made this point, "The importance of making sure that we're doing our best to get everything together and to really get used to our college life or our professional life is more emphasized now, because we're closer to graduation, closer to being out in the real world on our own."

However, advisors also reported trying to meet students' needs regardless of their age. In the career coaching study, coaches discussed how they would explore career interests and possibilities with students who were unsure.

For students who were more certain of their career interests or plans, coaching sessions focused on making sure students received information and supports about specific opportunities and pathways related to their chosen field. This included helping students find information about colleges or vocational programs, and assisting with applications, financial aid, resumes, interviews, and job searches. (Phillips et al., p. 15)

### **Theme #3: Certain populations of students were more likely to receive advising.**

Across the three studies, our findings suggest that, in the school context and in the absence of specific structures, certain populations were more likely to receive services or report more planning support. The studies provide some evidence that many students can create their own advantage by actively seeking out and receiving advising services.

In the survey study, we saw that students who reported higher levels of parental support for college and career planning also reported statistically significantly higher levels of advising, whether the advising was college-focused or career-focused. Further, students who had the

highest 8<sup>th</sup> grade performance consistently reported more college and career experiential planning support, such as attending a college campus or participating in an internship. Meanwhile, students from groups with historically lower graduation and college-going outcomes – such as Latine/x students, students with IEPs, and students who perform lowest on state test scores – tended to report fewer college planning experiences.

Some of these patterns were also seen in the career coaching study. *Schools* that received coaches tended to be more economically disadvantaged and have lower achievement. However, within those schools, *the students* who received the coaching were more likely to be White, female, and gifted. This is likely related to the fact that career coaches were more likely to work with students who were taking dual enrollment courses, which are more frequently taken by female and higher-achieving students (Miller et al, 2018).

In interviews as part of the qualitative study, staff and students tended to indicate that advising was provided to students regardless of background characteristics, although there were two notable exceptions. First, a theme arose that mid-range students were less likely to receive advising. In other words, advising tended to be focused on higher or lower-performing students and students in the middle may not receive the same level of attention. School staff reported focusing on students who were struggling academically or otherwise, addressing academic challenges and course selection. The other point made during the interviews was that advising did require some initiative or self-advocacy on the part of the students; students who did not express this initiative receive the basic course selection advising without much else. For example, a counselor at a comprehensive high school noted,

We want to do better serving all of our students and not just the ones that feel comfortable enough to ask us, I guess. Because not every student is comfortable coming up to the front office and asking. And so, we tried to, or we're going to try to do better about that.

#### **Theme #4: Career-focused advising was more likely to happen in career-focused schools. The size of the school also affected the frequency and quality of the advising.**

There were two primary themes that cut across the three studies that provided insight around the relationships between school structure/culture and advising. The first theme was that the career-focused advising was more likely to happen in schools with an explicit CTE focus. For example, the survey study found that students in schools with a CTE focus reported higher levels of career support; 45 percent of students at CTE high schools reported strong career support compared to 31 percent of students in comprehensive high schools with CTE programming and 23 percent of students in high schools with no CTE program sequences. In contrast, students at all three types of schools reported similar levels of strong college support,

ranging from a low of 60 percent (in CTE and regular high schools) to a high of 64 percent (in high schools with no CTE programming).

In the qualitative study, we also found that advising varied by the emphasis of the school. Schools that had more of a college-for-all emphasis tended to center their advising around college courses and college access. In contrast, schools that had a more explicit CTE focus had more intentionality around their career advising. For example, the only school in our North Carolina sample that required students to take a career management course focused on career awareness and exploration was a career-focused early college.

The second cross-cutting theme was an association between advising and school size with students in smaller schools receiving higher levels of advising. The survey study found that students in bigger schools (more than 1,400 students) reported less support in all areas than students in small high schools with fewer than 550 students, a relationship that was not driven by any differences in counselor-student ratios. In the career coaching study, smaller schools in rural areas were more likely to receive a coach, especially in the earlier years of the career coaching program.

The qualitative study found that the structure of small schools allowed for stronger relationships between staff and students, which also allowed for ability to build relationships and help the staff understand individual students more effectively. As an advisor at one small school noted, “It’s a great benefit that we are at a small school that we’re able to get to know each and every student on a personal level. And we’ll be able to meet with them about their post-secondary options and so forth.” In small schools, multiple staff were also more likely to see advising as their responsibility, meaning that advising tended to be more distributed.

### **Theme #5: Career-focused advising was linked with higher participation in career-oriented activities in high school.**

All three studies found that advising was linked to increased participation in career-oriented high school activities. The survey study found that students who reported more career planning support were more likely to become CTE concentrators. Students who had more career planning support were more likely to participate in high school internships. This study also suggests that earlier advising matters as students who reported meeting to discuss college or career plans in 9<sup>th</sup> grade had a 17 percent higher likelihood of participating in an internship compared to those students who did not have a 9<sup>th</sup> grade planning meeting. The career coaching study found that the coaches increased students’ likelihood of taking CTE dual enrollment courses, although there was no impact on high school CTE course-taking outside the dual enrollment pathway. Again, the career coaches’ familiarity with community college offerings, including dual enrollment coursework, could have contributed to this result.

The qualitative study suggests a possible mechanism by which this might be working. According to the interviewees, the advisors raised awareness of opportunities and then provided specific supports to help students take advantage of the opportunities. The interviewees tended to agree that advisors may not always have influenced students' choices but that they gave students options and then helped them move forward with those choices. As noted in the full qualitative study report, students "often credited advisors with helping them translate their interests and ambitions into actionable plans, primarily through course selection, scheduling, and ensuring that program requirements were met." (Hutchins et al, p. 22). Advisors assisted students in identifying courses that might be connected to their interests and that coursework helped determine their postsecondary interests. As the article pointed out, "Thus, while advising helped direct students to specific courses or other opportunities, students often reflected on the content and experiences within these courses or programs as affirming, redirecting, or otherwise pushing students to clarify their goals and interests." (Hutchins et al., p. 24).

Two of the studies also looked at the relationship between advising and high school graduation rates and had differing findings. The career coaching looked at the impact of the career coaches on high school graduation rates and found no impact. In the survey study, there was a positive correlation between levels of college support and high school graduation rates and no significant relationship between levels of career support and high school graduation after controlling for students' background demographic characteristics and prior academic performance. It is important to note that the survey study findings are correlational and do not draw a causal connection.

### **Theme #6: Career focused advising shifted the types of colleges that students attended.**

The studies suggest a consistent relationship between transition-focused advising and some postsecondary outcomes; both the survey study and the career coaching study found a negative relationship between career-related advising and enrollment in four-year institutions.

For the career coaching study, both the school-level and student-level analyses found that career coaches were associated with a negative impact on enrollment at four-year postsecondary institutions. The school-level analyses found a positive impact on the number of students who reported that they intended to immediately enter the workforce after high school. The student-level analyses did not find that meeting with a coach impacted intentions to enter employment but did find a positive impact on intentions to enroll in a two-year institution and on actual enrollments at two-year schools after high school.

The survey study found that the *type* of career-related support shifted the relationship between advising and four-year enrollment. Researchers found a small, negative association between four-year enrollment and career exploration- or application-related support - with a one-point

increase in this career planning support associated with a 4 percent decrease in the odds of enrolling in a four-year institution - but no relationship between career exploration support and four-year enrollment. Experiential support related to college planning, such as college visits or SAT or ACT-prep, was strongly linked to four-year enrollment, with a one-point gain in college planning experience associated with a 23% increase in odds of immediate four-year enrollment after controlling for background factors.

The qualitative study again provides some insight into the mechanisms here. The site visit data suggest that advising led to specific activities that encouraged students to move in certain directions and exposure could help students decide both what they wanted to do as well as what they did not want to do. It is possible that exposure to certain career-related activities may help students consider other postsecondary options beyond college.

### **Theme #7: Additional research on how advising varied by student characteristics would be helpful.**

Only one of the studies provided insights around the relationship between the extent to which the relationship between advising and student outcomes differed by student characteristics. The career coaching study looked at this issue and found few differences in impacts by subgroups. The only statistically significant difference in impacts was that White, non-Hispanic students who met with coaches experienced a larger increase in the number of college credits they earned through dual enrollment (relative to students at schools without coaches) than students in other racial or ethnic groups did; the impact on college credit-earning through dual enrollment was not statistically significant for Hispanic or non-White students. The qualitative study was unable to address this question and future research with the survey study will explore interactions between advising participation and subgroups.

## **Methodological Takeaways**

In addition to developing answers to our specific research questions, the study synthesis has led us to identify a core set of methodological challenges that researchers should consider as they move forward in conducting more research on advising.

A core methodological challenge is *identifying appropriate outcomes for advising*. An important goal of school-based advising is to help students align their high school efforts with their interests. Therefore, effective advising may not always lead to a specific postsecondary outcome. For example, not going to college may be appropriate for a student whose interests do not require a college degree. However, many studies treat increasing postsecondary enrollment as the primary outcome with negative impacts on postsecondary enrollment considered as problematic. A better outcome measure for advising might be a measure of alignment between career interests and educational needs for that career; however, this sort of an outcome also has multiple challenges associated with it. One challenge is that advising



should not only acknowledge current interests, but it should help expand students' interests and point them in potentially new directions that they would not have considered in the absence of advising. Thus, any alignment measure should consider the extent to which students have been exposed to a variety of options leading to well-informed interests. There are also substantial data challenges given that data may not exist on students' interests that would allow for the development of such an alignment measure. Researchers collecting interest data, perhaps as part of an evaluation of intervention using interest inventories, are likely the best suited to explore the development of an alignment measure.

A second methodological challenge is related to our findings that students who come with background advantages appear to be those who are also seeking out and receiving advising at higher rates. Given the differences in who seems to be participating in counseling, it is likely that observed benefits to *advising or coaching could be due to differences in background interest or motivation* instead of the actual benefits of the coach. A randomized design would allow researchers to control for differences in motivation. In the absence of randomized controlled trials, it would be critical to ensure that, in addition to standard background characteristics of achievement and demographics, analyses incorporated baseline measures that could be good proxies for motivation, including, when available, attendance and measures of levels of coursetaking.

Finally, we found it challenging to *unpack the relationship between advising and student outcomes by student/school characteristics*. It was challenging in the qualitative study because students do not always have the self-awareness to be able to reflect on this and adults may be subject to social desirability bias, where they would like to confirm that they are serving all students. For quantitative analyses, statistical power becomes an issue particularly with smaller subgroups. It is also possible that the motivation issue may play out differently in different subgroups in such a way that the influence of unmeasured characteristics may exacerbate differences.

## Conclusions

Overall, our study suggests some important trends with implications for both practice and research.

**First, the studies suggest that *advising does make a difference in students' high school and postsecondary experiences, likely by helping students participate in activities that can help expand and reinforce their interests.*** This continues to reinforce existing research indicating that advising and counseling are activities worthy of support and attention (Mulhern, 2023). We also found that advising is implemented in a variety of ways and there is suggestive evidence that CTE teachers play a critical role in advising, a finding consistent with existing research (Kraft et al, 2021). Both practitioners and researchers will want to consider paying attention to

the role that teachers play in advising and consider interventions that might help build their expertise in this area.

**A second key finding is that advising activities tend to *emphasize coursetaking and college-going*.** The findings suggest that, absent specific structures or supportive cultures, careers receive less attention. Nevertheless, the data also suggest that expanding access to career-focused advising does not have to result in lower rates of college-focused advising. The survey study clearly showed that CTE-focused schools provided career support at much higher levels while also providing the same level of college support. In other words, it does not have to be a zero-sum game where emphasis on college advising needs to take away from advising relative to careers.

**A third key finding is a relationship between *student advantage and advising*.** The studies suggest that students with certain background characteristics—including more parental support for college and career planning or higher academic skills—are more likely to seek out advising experiences. Our study also found suggestive evidence that some of these advising experiences (particularly courses or work-based learning opportunities) are more likely to go to students who already have some level of advantage. For example, in the career coaching study, we found that participating in dual enrollment often led to interactions with a career coach; thus, students who took dual enrollment might have been more likely to receive the additional benefits of the career coaches. Additionally, the survey study found that students with higher levels of middle school academic performance were more likely to participate in internships in high school. These findings may help explain the difference between the quantitative analyses (which found that students with more background advantage tended to receive more advising experiences) and the qualitative study, which found that advisors tended to serve students seen as needing more assistance.

The relationship between advising experiences and student advantage has both implications for who benefits from advising as well as methodological challenges (see discussion above). For example, if more motivated students have more access to advisors, either because they seek them out or because they are already participating in activities that are associated with more advising, then it is more likely that they will receive the benefits associated with advisors/counselors (Hurwitz & Howell, 2014; Mulhern, 2023). As we describe in the paper, this can lead to students creating their own advantage. While student initiative should always be encouraged, this suggests that schools may want to think about how to structure advising experiences to give access to students who may not know how to take advantage of counselors. Relatedly, this has implications for ensuring that advisors/counselors have caseloads that allow them to do this more proactive outreach.

Overall, these three studies provide insight that move the field of advising research forward and also point toward fruitful directions for additional attention in both practice and research.

## References

- Advance CTE. (2018). *The state of Career Technical Education: Career advising and development*. Retrieved from <https://careertech.org/resource/the-state-of-career-technical-education-career-advising-and-development/>
- American School Counselor Association (2016) *The role of the school counselor*. Alexandria, VA: Author.
- Clayton, A. (2019). Helping students navigate the college choice process: the Experiences and practices of college advising professionals in public high schools. *The Review of Higher Education*, 42(4), 1401-1429.
- Clinedinst, M. and Patel, P. (2018). "2018 State of College Admission." *National Association for College Admission Counseling*. Retrieved from <https://www.nacacnet.org/globalassets/documents/publications/research/2018soca/soca18.pdf>
- De Brey, C., Snyder, T.D., Zhang, A., and Dillow, S.A. (2021). *Digest of Education Statistics 2019* (NCES 2021-009). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.
- Dougherty, S. M., & Lombardi, A. R. (2016). From vocational education to career readiness: The ongoing work of linking education and the labor market. *Review of Research in Education*, 40(1), 326-355.
- Griffin, D., Hutchins, B. C., & Meece, J. L. (2011). Where do rural high school students go to find information about their futures? . *Journal of Counseling and Development*, 89, 172-181.
- Hurwitz, M., & Howell, J. (2014). Estimating causal impacts of school counselors with regression discontinuity designs. *Journal of Counseling and Development*, 92, 316-327.
- Hutchins, B. C., Alterman, E., Wuest, C., Sludden, J. & Edmunds, J.A. (2024) *The role of high school CTE advising in students' postsecondary planning: A qualitative study*. Greensboro, NC: Early College Research Center, UNC Greensboro.
- Kraft, M. A., Bolves, A., & Hurd, N. M. (2021). *School-based mentoring relationships and human capital formation*. Retrieved from Providence, RI: [https://scholar.harvard.edu/sites/scholar.harvard.edu/files/mkraft/files/kraft\\_bolves\\_hurd\\_2021\\_school-based\\_natural\\_mentors.pdf](https://scholar.harvard.edu/sites/scholar.harvard.edu/files/mkraft/files/kraft_bolves_hurd_2021_school-based_natural_mentors.pdf)
- Lareau, A. (2011). *Unequal childhoods: Race, class and family life*. Oakland, CA: University of California Press.

- McDonough, P. M. (2005). Counseling and college counseling in America's high schools. *State of college admission*, 107-121.
- Miller, T., Kosiewicz, H., Tanenbaum, C., Atchison, D., Knight, D., Ratway, B., Delhommer, S., & Levin, J. (2018). *Dual Credit Education Programs in Texas: Phase II*. Washington, DC: American Institutes for Research. <http://www.60x30tx.com/media/1428/dual-credit-education-programs-in-texas.pdf>
- Mulhern, C. (2021). Changing college choices with personalized information at scale: Evidence on Naviance. *Journal of Labor Economics*, 39(1), 219-262.
- Mulhern, C. (2023). Beyond teachers: Estimating individual school counselors' effects on educational attainment. *American Economic Review*, 113(11), 2846-2893.
- Nachman, B. R., Maldonado, L. G., Hartman, C., & Deal, S. A. (2023). How career coaches employed by community colleges shape students' postsecondary and professional pathways in North Carolina public high schools. *Community College Journal of Research and Practice*, 1-16. doi:<https://doi.org/10.1080/10668926.2023.2238646>
- Perna, L. W., Rowan-Kenyon, H. T., Thomas, S. L., Bell, A., Anderson, R., & Li, C. (2008). The role of college counseling in shaping college opportunity: Variations across high schools. *The Review of Higher Education*, 31(2), 131-159.
- Phillips, B., Mulhern, C., Hutchins, B. C., and Edmunds, J.A. (2024). Implementation and impact of career-focused advising. EdWorkingPaper No. 24-1011. <https://edworkingpapers.com/sites/default/files/ai24-1011.pdf>
- Sattin-Bajaj, C., Jennings, J. L., Corcoran, S.P., Baker-Smith, C. & Hailey, C. (2018). Surviving at the street level: How counselors' implementation of school choice policy shapes students' high school destinations. *Sociology of Education*, 91(1), 46-71.
- Sludden, J. & Kemple, J. (2024). High School Advising: Exploring NYC students' perceptions of school-based support for college and career transitions. NY: Research Alliance for New York City Schools, New York University. <https://steinhardt.nyu.edu/research-alliance/research/high-school-advising>
- Stephan, J. (2013). Social capital and the college enrollment process: How can a school program make a difference? *Teachers College Record*, 115(4), 1-39.