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TEACHERS COLLEGE, COLUMBIA UNIVERSITY

## **Ease of Access and Usefulness of Transfer Information on Community College Websites in Texas**

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## **Abstract**

Many first-time community college entrants aspire to earn a bachelor's degree, but few do. To transfer, students often must overcome information constraints to navigate bureaucratic hurdles and conflicting requirements. For a sample of 20 Texas community colleges, we reviewed college websites, assessing the ease of access and usefulness of online transfer information, and spoke to key transfer personnel about the information provided to students. We used a qualitative case study approach to triangulate findings from our data sources. Approximately two thirds of colleges in the sample fell below the highest standard on our rubric for either ease of access or usefulness, indicating room for improvement at most institutions. Many personnel we interviewed recognized the strengths and limitations of their college's online information, though several were ambivalent regarding the need for improving online transfer information, arguing that the availability of online information alone is insufficient for successful transfer and not as important as face-to-face advising. Our research illustrates the need for colleges to develop and update their online information with care, determining which information students need to transfer (including transfer guides for partner programs/colleges), how students might search for that information, and ensuring that necessary transfer information is available and up-to-date. The framework provided by our rubric may guide institutions in the evaluation of their online transfer information.

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## 1. Introduction

More than a third of college students begin postsecondary education at a public two-year college (National Center for Education Statistics, 2014, Table 1.1). Given that community colleges enroll a disproportionate number of Black, Hispanic, low-income, and first-generation college students, the success of community college entrants has important implications for equity in educational attainment and social stratification (Schudde & Goldrick-Rab, 2015). Nationally, 80 percent of first-time community college entrants aspire to earn a bachelor's degree, but less than a third transfer within six years, and only 13 percent complete a bachelor's degree in that time frame (Horn & Skomsvold, 2011; Shapiro et al., 2017). The “transfer function” of community colleges—the vertical transfer pathway that should allow students to transition to a four-year institution—is not optimized; many students fail to achieve their educational goals (Bailey, Jenkins, Fink, Cullinane, & Schudde, 2016; Taylor & Jain, 2017). While there are a variety of explanations for this non-optimal transfer function, scholars, policymakers, and practitioners seem to agree that a lack of transparent transfer pathways contributes to confusion among students and the people students turn to for help (Bailey et al., 2016; Fink & Jenkins, 2017; GAO, 2017; Hossler et al., 2012).

Recent research highlights the increasingly important role that online information plays in helping students navigate college (GAO, 2017; Jaggars & Fletcher, 2014; Margolin, Miller, & Rosenbaum, 2013). While students arrive to campus with varying certainty over intended major and degree goals, nearly all students require transparent information to inform educational decisions. This paper examines the online transfer information that colleges offer to students as they navigate the “shapeless river” of bureaucratic hurdles and coursework that must be traversed to achieve important milestones at a community college (Scott-Clayton, 2011, p. 1). Through interviews with transfer personnel at community colleges in Texas, we examined staff and administrators’ perspectives about navigating transfer requirements and the online information available to guide students and staff. We also collected and analyzed online transfer information provided on community college websites, assessing the ease of access and usefulness of the content.

In this paper, we first provide some background on how vertical transfer typically works, who is most vulnerable to its obstacles, how it might be improved, and the particular circumstances of transfer in the state of Texas, where our study takes place. We then describe our research methods and results. We conclude with a discussion of the implications of our findings as well as recommendations for improving the transparency of the transfer process.

## **2. The Status Quo Transfer Function**

### **2.1 Structural Problems and Information Constraints**

While many students enter community college with high educational aspirations, most fail to reach their goals, spurring debate over the effects of enrolling in the public two-year sector. Canonical theories from sociology argue that community colleges “cool out” or manage student ambitions, diverting students who otherwise may have entered a university, decreasing their educational and economic attainment and reproducing inequality (Brint & Karabel, 1989; Clark, 1960). In contrast to theorists who anticipate diversion, “structuralists” argue that community colleges enroll too many students and employ too few advisors to enable a systematic institutional letdown of student aspirations (Rosenbaum, Deil-Amen, & Person, 2007; Scott-Clayton, 2011). They contend that institutional constraints—particularly limited financial resources—contribute to a structure that overlooks the challenges faced by the student population (Rosenbaum et al., 2007). Many community colleges fail to offer adequate support for students with diverse needs to navigate bureaucratic hurdles and conflicting demands (Deil-Amen & Rosenbaum, 2003).

The transfer process is itself wrought with bureaucratic hurdles and complex information. Students must navigate the requirements of their primary institutions—the college where they are currently enrolled—and the requirements of their prospective destination institution. Confusion regarding course and degree selection and credit transfer are one of many hurdles students face in navigating the transfer process (Person, Rosenbaum, & Deil-Amen, 2006). Key barriers to transfer include opaque transfer

policies, insufficient information related to credit portability, and inadequate support services to promote and maintain progress on streamlined pathways (Bailey, Jaggars, & Jenkins, 2015; Bailey et al., 2016; Rosenbaum et al., 2007).

For community college students interested in earning a bachelor's degree, it seems there is a "hidden curriculum" of transfer, which includes taken-for-granted knowledge about how to proceed through the transfer process (Deil-Amen & DeLuca, 2010; Rosenbaum et al., 2007, p. 63). To adequately support transfer, institutions must illuminate transfer requirements during each phase of students' educational trajectory—as they make course enrollment decisions, declare or change majors, consider potential destination colleges/programs, and attempt to transfer credits. Structuralism highlights the scaffolding that colleges can build to support students, including information dissemination, advising, and providing clear milestones that allow students to move efficiently toward their goals (Bailey et al., 2015; Rosenbaum et al., 2007; Scott-Clayton, 2012).

Many community college students appear to have incomplete information, or *information constraints*, as they navigate transfer (Bailey et al., 2015; Fink & Jenkins, 2017; Hodara, Martinez-Wenzel, Stevens, & Mazzeo, 2017; Rosenbaum et al., 2007). They lack adequate information about how to prepare for, and successfully transfer to, another college to earn their desired degree. The pathway to a baccalaureate through community college involves an overwhelming number of choices, which must be made by students who have information constraints and sometimes little direct guidance from advisors. Too often, this results in poor decisions, loss of time and money, and, ultimately, movement away from the credential students intended to earn (Scott-Clayton, 2011). If some students face greater information constraints than others, the inequity in information may contribute to group-level differences in transfer success, a point we elaborate on below. To help students overcome information constraints, the information regarding transfer should be easy to locate and interpret, well organized, and complete.

But to what extent do current practices regarding transfer align with these ideals and purported best practices? Currently, we have little insight into the information made available to students or how institutional agents make sense of the transfer process and informational barriers students face. A recent report from the Government Accountability

Office (GAO) (2017) suggests that colleges provide inadequate information online and often lack the support services to make up for that inadequacy. In this paper, we leverage the structuralist perspective, along with the construct of information constraints, as a theoretical framework with which to evaluate the availability and usefulness of online transfer information provided by community colleges to their students.

## **2.2 Enrollment Patterns and Nonlinear Pathways**

Among community college entrants, nearly a third transfer to a four-year institution—most without receiving a degree prior to transfer (Shapiro et al., 2017). And credit transfer is relevant to many college attendees, not just those seeking vertical transfer. One third of first-time college students transfer to a different institution within 6 years of entry (Shapiro, Dundar, Wakhungu, Yuan, & Harrell, 2015). While the focus of our inquiry is vertical transfer—transitioning from public two-year to four-year institutions—college students engage in complex movements between institutional sectors. They “swirl” through college, moving laterally and vertically between institutions (transferring to colleges at the same level or to those that offer higher degrees), switching between the public and private sector, and even “reverse” transferring from four-year to two-year institutions (Adelman, 2006; Deil-Amen & Rosenbaum, 2003; Goldrick-Rab, 2006; Shapiro et al., 2015). Even students who do not technically transfer between institutions sometimes earn college credits from several institutions. University students take courses at community colleges to transfer to their home institution; “dual enrollment” high school students accrue college credits before entering college; co-enrolled college students take credits concurrently at multiple postsecondary institutions (Shapiro et al., 2015, p. 6). Given these enrollment patterns, transfer policies and processes are relevant for a large proportion of college-goers today.

As the number of students engaged in postsecondary education through “nontraditional” enrollment patterns continues to rise, fewer students experience college as continuous enrollment at a traditional, residential, four-year institution (Adelman, 2006). Students’ background and educational preparation appear to influence transfer success (Dowd & Melguizo, 2008; Hoachlander, Sikora, & Horn, 2003; Speroni, 2011; Wood, Nevarez, & Hilton, 2012). But recent research emphasizes the role of transfer policies and practices as potential alternative predictors of transfer outcomes (Fink &



Jenkins, 2017; GAO, 2017; Hodara et al., 2017). Furthermore, inaccessible or perplexing transfer information may disproportionately impact some students.

### **2.3 Inequitable Transfer Patterns**

Who is best and least served by the status quo transfer function? Transfer is a matter of educational opportunity; a non-optimal transfer function produces inequities in educational attainment (Chase, Dowd, Pazich, & Bensimon, 2014). Thus, it is useful to consider which students are likely impacted by unclear transfer information. The “hidden curriculum of transfer” is often made visible to students with the necessary resources to navigate the community college and its institutional partnerships (Deil-Amen & DeLuca, 2010; Rosenbaum et al., 2007). Student background, particularly characteristics related to external responsibilities, appear to predict transfer. Older students, students from low-socioeconomic households, and those who have dependents are disadvantaged in the transfer process (Dougherty & Kienzl, 2006). Despite demonstrating higher educational aspirations than their peers, African American and Hispanic community college students are less likely than their White peers to earn a bachelor’s degree (Hoachlander et al., 2003; Monaghan & Attewell, 2015).

Many transfer-intending community college students do not know where to begin as they navigate the transfer pipeline, but this is particularly true for students who lack the social networks necessary for successful navigation of the transfer process (Person et al., 2006). Friends, classmates, and family members who already navigated college, along with staff and faculty, can provide inside information and support to navigate complex information and bureaucratic hurdles. Academic integration—measured by experiences such as participating in study groups and talking with faculty outside of class—appears to significantly predict transfer for White students, but not for underrepresented students of color; this may be related to unmeasured qualitative differences in campus experiences (Crisp & Nuñez, 2014). Recent research illustrates that students with social and academic connections to help them curate information related to transfer are advantaged in navigating byzantine transfer policies—those networks provide access to important information (Schudde, Jabbar, & Hartman, 2017).

As college admissions become more competitive and college costs rise, middle-class families seek ways to ensure higher education access and affordability for their

children (Holland, 2014; Schudde & Grodsky, forthcoming). Inequitable transfer patterns illustrate the need for improvement and highlight transfer pathways as a means to offset broader trends in postsecondary inequality. The dissemination of transfer information through formal mechanisms—rather than relying on informal student interactions—is one potential means to improve transfer outcomes for students at greatest risk of information constraints.

### **3. Potential Resolutions: Can the Transfer Function Be Optimized?**

The community college pathway toward a baccalaureate includes several hurdles. Stakeholders in higher education acknowledge the challenges posed by bureaucratic hurdles, complex and opaque information, and inadequate support services to navigate transfer. In this section, we describe potential solutions, including approaches used at the state and institutional level, to make transfer processes and requirements more transparent.

#### **3.1 State Policy Solutions**

One common policy response at the state level is the development of a set of lower-division courses that are universally accepted at public colleges statewide, referred to as a *general education core*. Thirty states have adopted this strategy (Jenkins, Kadlec, & Votruba, 2014). Because college advisors often recommend that transfer-intending students choose coursework to satisfy lower-division general education requirements, the core should standardize recommended courses for transfer, building toward a well-conceived transfer pathway. In practice, the core, on its own, does not create a seamless transition between institutions because bachelor's degree requirements vary by major. Thus, lower-division coursework may not count toward a degree in the student's major (Bailey et al., 2016). This remains a conundrum among reformers who want to make the transfer process easier for students.

Another popular strategy for improving transfer success is the adoption of articulation agreements (also called transfer agreements). These agreements serve to negotiate the requirements for students to move between institutions (Anderson, Sun, &

Alfonso, 2006). Several states have adopted statewide articulation agreements, but many still rely on “bilateral agreements” between two institutions, leaving students and advisors to navigate specific agreements between colleges and programs (Root, 2013). Even with statewide agreements, bilateral agreements are often necessary to enable negotiation between departments due to variation in postsecondary curricula (Fink & Jenkins, 2017). Despite promising trends in some states with statewide agreements, such as Florida and California (Baker, 2016; Bustillos, 2017; Garcia Falconetti, 2009), there is little evidence that statewide articulation agreements improve transfer rates or degree attainment (Anderson et al., 2006; Roksa & Keith, 2008).

Several scholars suggest that rather than statewide articulation agreements, stronger institutional partnerships across the public two-year and four-year sectors of higher education are key to making the transfer process more transparent (Deil-Amen & Rosenbaum, 2003; Fink & Jenkins, 2017; Kisker, 2007; Rosenbaum et al., 2007). When institutions are ill-aligned, students may lose credits in transfer, even in the presence of overarching state policies (Bailey et al., 2016). Yet four-year institutions are poorly incentivized to create a transfer-receptive culture (Herrera & Jain, 2013; Jenkins et al., 2014).

### **3.2 Institutional Interventions to Overcome Information Constraints**

The interventions noted above mostly develop structures to determine how credits transfer, but those interventions do not necessarily guarantee that relevant information is then disseminated to students in a clear and coherent manner. Transfer pathways available to students are deeply entangled with the way institutions distill and disseminate information regarding credit portability (Hagedorn, 2010; Townsend & Wilson, 2006). Recent research suggests wide variation in access to and quality of both transfer advising and publicly available information regarding transfer (GAO, 2017).

**Advising.** Many students voice the need for greater support as they attempt to navigate the transfer process (Allen, Smith, & Muehleck, 2014; Davies & Dickmann, 1998; Herrera & Jain, 2013; Jain, Bernal, Lucero, Herrera, & Solorzano, 2016; Jain, Herrera, Bernal, & Solorzano, 2011; Senie, 2016). Some institutions offer specialized services to guide transfer-intending students, including transfer-specific advisors, centers, and events, but the quality and availability of those resources vary (Bailey et al., 2016;

Hodara et al., 2017). College personnel are one means to disseminate vital information about transfer, including introducing students to transfer guides or structured “maps” to guide movement from one institution to another. Many community colleges, however, are unable to meet the demand for effective transfer advising (Allen et al., 2014; Bahr, 2008; Davies & Dickmann, 1998).

Based on interviews with stakeholders in higher education, the GAO (2017) argued that students often struggle to obtain adequate advising and information to plan their path (p. 12). Plagued by high student-to-advisor ratios and resource constraints, it is not possible for most community colleges to provide holistic, one-on-one advising to every student (Bahr, 2008; Schudde & Goldrick-Rab, 2015). Unfortunately, community college students and advisors cannot rely on four-year institutions to fill the void in transfer-specific advising; some four-year institutions are reluctant to collaborate while others face similar resource constraints as those in the public two-year sector (GAO, 2017, p. 13; Herrera & Jain, 2013). Given barriers to the face-to-face transmission of transfer information, it is likely that a different tactic is necessary to ensure the availability of high-quality transfer information for all students. Online information may be a reliable alternative, but evidence suggests that many community colleges are not providing adequate information for students through this medium.

**Online content.** College websites are an important tool to convey institutional and program-specific information to students, but the quality and ease of access of information seems to vary across institutions (Jaggars & Fletcher, 2014; Khlaisang, 2017; Margolin et al., 2013). Postsecondary institutions increasingly use websites to share consumer information, and the federal Department of Education requires that credit transfer policies and other disclosures, such as net price calculators, be posted on college websites (GAO, 2017). However, colleges do *not* have to disclose which institutions they have articulation agreements with or present other transfer information (GAO, 2017, p. 32). Yet posting the information online would make it more accessible to prospective and current students, compared with restricting access exclusively to printed copies of publications provided on campus (GAO, 2017). If colleges have transfer guides available, institutional websites may be the best place to present that information.

Eleven percent of community college students rely on their college's website as their primary source of academic advising (Center for Community College Student Engagement, 2018, p. 7). When students cannot locate correct information about college policies and procedures, they struggle to answer questions as they proceed toward their educational goals (Nodine, Jaeger, Venezia, & Bracco, 2012; Van Noy, Trimble, Jenkins, Barnett, & Wachen, 2016). Thus, ease of access of online information—how easy it is to locate—is important. Similarly, when informational resources are inconsistent and poorly organized, students struggle to use that information in their educational decision-making (Jaggars & Fletcher, 2014). Students' ability to gather and evaluate online information often fails to meet expectations for effective information use, which suggests that online resources for students must be developed with great care (Grimes & Boening, 2001).

To understand the transparency of the college transfer process, the GAO (2017) interviewed 25 stakeholders from colleges ( $n = 8$ ) and higher education organizations ( $n = 17$ ) and reviewed the websites of a nationally representative sample of colleges ( $n = 214$ ). They argued that students would better understand their transfer options if the appropriate information was accessible online. However, their website review found that existing college websites vary dramatically in the ease of access and clarity of online transfer information. The GAO's findings illustrate a systemic lack of available and navigable information to guide students in their transfer efforts. While information alone is not the sole solution—many students would benefit from guidance to help them interpret that information—it seems a necessary step to ensure that students and the advisors, faculty, family members, and community members that support them have accurate information about transfer options, processes, and policies.

While the GAO's (2017) report highlighted the perspectives of knowledgeable stakeholders and the inadequacies of many college websites, their evaluation did not focus on community colleges, so it did not consider the organizational context within which community colleges are situated. Community colleges operate within larger state contexts. Their relationships with other institutions, namely public universities and overarching governing bodies, shape the environment and the responses available to community colleges.

In this paper, we provide greater depth to the discussion, illuminating variation in ease of access and usefulness of online transfer information within a statewide community college context, and we pair those findings with the perspectives of transfer personnel and administrators at the colleges we examined. Moving beyond the GAO’s findings and recommendations, we closely examined transfer information and the response of institutional agents about that information in the complex community college system in Texas. We coded online transfer information provided by 20 Texas community colleges and then assessed the ease of access and usefulness of the information. We also spoke to key transfer personnel about how they disseminate transfer information to students and about their interpretation of the ease with which students can find transfer information through the college’s website.

#### **4. Texas Context**

In Texas, 81 percent of students enroll in transfer programs, but fewer than a quarter of transfer aspirants end up transferring, closely mirroring national trends (Texas Higher Education Coordinating Board [THECB], 2014). Transfer of credits between institutions is a common policy concern, as three quarters of bachelor’s degree recipients have taken at least some credits at a Texas community college (THECB, 2014). Texas employs several initiatives to improve success among transfer students. Among those, the core curriculum (Texas’s general education core) and Field of Study (FOS) curricula (additional lower-division coursework that must transfer between colleges, available for only nine major fields) are mandated. Other initiatives, such as transfer agreements, are “encouraged, but not required” (THECB, 2014). The FOS and the core curriculum should ease transfer for students who switch between any of Texas’s public postsecondary institutions by eliminating course duplication. Texas transfer agreements are bilateral, occurring between individual institutions. For that reason, they vary in availability and quality based on which college and program students transfer to and from. Most colleges engage in practices to facilitate transfer, but personnel acknowledge that practices and policies are often developed quickly—typically when additional funding comes in or they receive complaints about inadequate compliance with state policies, such as those related

to the core and FOS. Furthermore, like other states, Texas continues to lack incentives for institutions across the two-year and four-year sectors to work together to improve transfer via clear transfer/degree pathways and efficient implementation of existing transfer policies (Bailey et al., 2016).

## **6. Data and Methods**

Our study examines online transfer information at Texas community colleges. We ask the following interrelated research questions:

- How accessible and navigable is transfer information on community college websites?
- How do administrators and transfer personnel think about the dissemination of transfer information? How do they perceive the value of online transfer information and its ease of access and usefulness at their institution?

Using student-level data obtained from National Student Clearinghouse (NSC) to estimate transfer outcomes for each community college in the state, we chose a sample of 20 colleges based on varying performance on transfer outcomes. To address our research questions, we interviewed transfer personnel—including colleges administrators, advisors, and other personnel—and reviewed and evaluated the ease of access and usefulness of transfer information on institutional websites. We used a qualitative case study approach, triangulating our findings from multiple sources of data (Maxwell, 2012).

### **6.1 Site Selection**

We selected 20 community colleges using institution-level transfer-out and bachelor's completion rates calculated from NSC data.<sup>1</sup> The “transfer-out rate” is the percentage of fall 2007 entrants who transferred to a baccalaureate-granting institution within 6 years of initial enrollment. The bachelor's completion rate is the percentage of

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<sup>1</sup> Access to the data was provided through an agreement between the Community College Research Center and the NSC.

fall 2007 entrants who earned a bachelor's degree from any four-year institution within six years of enrollment.<sup>2</sup> To ensure adequate variation based on institutional performance on transfer outcomes, we included institutions with relatively high and low performance on the transfer measures described above.

Using purposeful selection (Maxwell, 2012), we identified four types of community colleges for the sample (five per category, 20 total): (1) colleges with the lowest transfer-out rates; (2) colleges with high transfer-out rates (above the median) and middling bachelor's completion rates; (3) colleges with high bachelor's completion rates, among those with high transfer-out rates; and (4) colleges with low bachelor's completion rates, among those with high transfer-out rates. Table 1 provides descriptive information for each college in the sample, including their categorization based on transfer outcomes using NSC data. To protect the identities of participants in our interviews, we anonymize the names of the colleges.

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<sup>2</sup> For more information regarding the 2007 cohort of NSC data and development of the transfer outcome measures, see Jenkins and Fink (2016).



**Table 1**  
**Description of Colleges in the Sample**

College Characteristics	College									
	A	B	C	D	E	F	G	H	I	J
Campus setting	Town-Distant	Suburb-Midsize	Large City	Small City	Large City	Rural-Fringe	Large City	Large City	Town-Distant	Large City
Four-year colleges within 50 miles	2	8	7	2	4	0	1	9	1	3
Student characteristics										
Undergraduates (in thousands)	< 10	< 10	<10	< 10	10–20	< 10	20–30	> 40	< 10	10–20
Part-time	0.7	0.78	0.8	0.71	0.86	0.55	0.7	0.7	0.62	0.75
Female	0.6	0.58	0.67	0.6	0.57	0.61	0.56	0.58	0.58	0.54
Age 25+	0.15	0.29	0.43	0.27	0.36	0.28	0.25	0.48	0.22	0.22
In-state	1	0.99	1	0.96	0.97	0.98	0.95	0.87	0.97	0.98
Distance learners	0.5	0.33	0.31	0.49	0.45	0.35	0.21	0.34	0.4	0.23
Students of color	0.77	0.49	0.83	0.72	0.73	0.39	0.92	0.86	0.44	0.75
Pell recipients	0.37	0.24	0.39	0.23	0.27	0.26	0.49	0.39	0.41	0.27
Credentials and course completion										
Associate degree	350	470	900	690	1,030	340	3,670	6,570	840	--
Core completer	190	290	360	50	490	160	3,190	4,950	660	--
Transfer outcomes										
Low transfer-out rate	X	X	X	X	X					
High transfer-out, low bachelor's degree rate						X	X	X	X	X
High transfer-out, modest bachelor's degree rate										
High transfer-out, high bachelor's degree rate										

**Table 1 (cont.)**  
**Description of Colleges in the Sample**

College Characteristics	College									
	K	L	M	N	O	P	Q	R	S	T
Campus Setting	Large City	Town Distant	Small City	Large City	Large City	Town-Distant	Suburb-Midsize	Rural-Fringe	Town-Distant	Midsize City
Four-year colleges within 50 miles	2	1	8	7	7	3	7	2	2	7
Student characteristics										
Undergraduates (in thousands)	30–40	< 10	> 40	10–20	> 40	10–20	20–30	< 10	< 10	< 10
Part-time	0.78	0.78	0.74	0.7	0.7	0.48	0.67	0.62	0.68	0.73
Female	0.55	0.6	0.59	0.53	0.58	0.51	0.55	0.62	0.56	0.52
Age 25+	0.37	0.17	0.29	0.33	0.34	0.9	0.27	0.59	0.25	0.36
In-state	0.93	0.97	1	0.99	0.96	0.96	0.99	0.34	0.99	0.99
Distance learners	0.24	0.38	0.31	0.32	0.2	0.2	0.26	0.97	0.36	0.33
Students of color	0.66	0.54	0.68	0.77	0.66	0.38	0.49	0.4	0.39	0.8
Pell recipients	0.23	0.27	0.33	0.29	0.37	0.24	0.21	0.42	0.19	0.28
Credentials and course completion										
Associate degree	3,070	340	6,310	2,010	5,740	1,060	2,550	620	810	1,140
Core completer	2,350	260	1,140	1,570	1,030	310	2,640	90	680	650
Transfer outcomes										
Low transfer-out rate										
High transfer-out, low bachelor's degree rate										
High transfer-out, modest bachelor's degree rate	X	X	X	X	X					
High transfer-out, high bachelor's degree rate						X	X	X	X	X

Note. See Appendix, Table A1, for sources.

## **6.2 Interviews**

For the institutions sampled, we contacted personnel who serve community college transfer students. We identified relevant staff members through online directories and referrals (e.g., when a staff member at one institution recommended someone from another sampled institution or our initial contact suggested another suitable participant). Within our institutional sample, the first and second author interviewed representatives from 18 institutions (two colleges did not respond to our inquiries; both were colleges with low transfer-out rates). In most cases, we interviewed one staff member per college (13 colleges). When possible, we interviewed more than one staff member (five colleges). Our final interview sample included 26 community college personnel. Seventy-three percent of the sample were women. Participants held a variety of positions related to transfer, including academic advisors (5), transfer specialists (2), transfer center directors (6), academic advising directors or team leads (6), and administrators who oversee student services and/or facilitate articulation agreements (7).

In spring 2016, the first and second author performed semi-structured telephone interviews, lasting approximately one hour in length. The interview protocol concerned barriers that prevent students from successfully transferring and college practices related to vertical transfer. For this study, we focused a subset of the questions on information provided to students in order to navigate transfer, including online information provided by the college and perceived ease with which students could locate and navigate that information. We took detailed notes during our interviews, in addition to recording and transcribing the interviews. We coded each transcript using broad organizing themes based on the literature on community college transfer and developed subthemes within each of these as they emerged. The research team met frequently throughout the process to discuss coding to ensure consistency across coders. We developed analytic memos and discussed findings in person to ensure that our coding and analysis of the results aligned.

## **6.3 Website Review**

In summer 2016, we reviewed the websites of each of the community colleges. To assess the college's online transfer information, two coders (the second and third author) collected detailed evidence regarding the ease of access and usefulness of transfer

information. Similar to Van Noy et al. (2016), we were interested in how easy the information was to locate and its clarity. We assessed the online information using two related constructs—ease of access and usefulness. Both constructs were captured by Van Noy et al.’s “access to information” dimension of their website review. For our purposes, we assessed the two constructs separately because some colleges had easy-to-locate information that was ineffective, either due to being unclear, disorganized, or out-of-date (thus, the online information would rate high on ease of access, but low in terms of usefulness). Throughout the data collection and coding process, the research team performed inter-rater reliability checks to ensure consistency across coders.

We developed a rubric (see Table 2) for ease of access and usefulness after collecting a variety of information from each website, including search terms and “number of clicks” (and backtracking) necessary to find the transfer information, type of transfer information posted, number of partnerships listed, and quality of information posted (impression of website organization, working/broken links, up to date, etc.). After collecting fine-grained information about the content and quality of the transfer websites in detailed spreadsheets and memos, we reviewed the data for themes. From those themes, we developed our definition of ease of access and usefulness and created the rubric. With a prototype of the rubric, we reviewed the data from each institutional website and determined a score on each construct. As necessary, we made minor amendments to the items on the rubric while classifying the individual websites to ensure that the rubric adequately captured the data.

We defined “ease of access” of online transfer information based on how easy it was to locate, assessing the process students must go through to find it. We started our search on the institution’s home page, where we attempted to locate transfer information by going through the drop-down menus and/or clicking related links on the page. When that failed, we used the college website’s search tools or, as a last resort, a search engine such as Google to locate the information. We assigned each college website a value of 1 to 5 in terms of how easy it was to locate transfer information. The highest score of 5 indicates that we located the online transfer information easily within our first visit to the college website and it was intuitively located and labeled, requiring minimal effort to get

to the transfer landing page. A score of 1 indicates that most information was unavailable or could not be found within several minutes of searching and browsing.

**Table 2**  
**Measuring Ease of Access and Usefulness of Online Transfer Information**  
**on Community College Websites**

Score	Ease of Access	Usefulness
1	None: Seemingly no information to find	No information regarding transfer
2	Low: Where the information is not intuitively located and required using search tool and various search terms to locate	Low: Information present, but full of broken links that make it impossible to find adequate and accurate information
3	Somewhat accessible: The information was far removed from the home page, but could be found by gradually clicking through several pages, with some backtracking	Somewhat useful: Transfer information appears to be accurate, but it requires going through disorganized system, backtracking, and facing some broken links to eventually find accurate information
4	Moderate: Intuitively located, but vague labels on website menus, so finding transfer information required some backtracking to find	Moderate: Policies or processes necessary to guide student through transfer present, but could be more detailed; flow of information moves from simple to complex, but requires some backtracking to help students determine transfer process and requirements
5	High: Necessary information easily located on the first visit with minimal “clicks” from college home page, intuitively located and labeled	High: Simple language used to define transfer process; succinct initial presentation followed by cohesive flow of additional details as user clicks through links to get more information; transfer options (e.g., transfer plans for partner institution) clearly presented

We defined “usefulness” of transfer information based on the clarity, organization, and accuracy of information to guide students through the transfer process and necessary requirements. The highest score of 5 indicates that the website included complete information regarding transfer and that it was presented in a way that was easy to understand. A score of 1 indicates that the necessary information about transfer was missing.

## 7. Findings

### 7.1 Summary From Website Information

Table 3 provides a summary of our findings from the website review. Overall, we identified a wide degree of variation in terms of ease of access and usefulness of online transfer information. Half of colleges in the sample ( $n = 10$ ) provided online transfer information that was very easy to locate (high on the ease of access construct), and almost half ( $n = 9$ ) included information that was very easy to understand and intuitive in terms of organization (highly useful). For example, College K, a multi-campus urban community college system, offers specific transfer events and services, though most personnel who run the events are generalists (whereas, at some colleges, the advisors that run a transfer center only provide guidance on transfer). We rated the college's online transfer information as high for both ease of access and usefulness. The transfer information required clicking on a "degree and certificate" tab on the college's home page, then selecting another link to find the transfer page. Ultimately, the information was within two clicks from college website's home page. Though "degree and certificate" did not seem like the most intuitive label for finding transfer information, when hovering over the link, a description showed that the link would take users to a page with transfer options toward a degree. The transfer landing page included short explanations to guide navigation throughout the web pages. The transfer landing page outlined potential degree plans and provided clear information on how to seek help from an advisor. Overall, the website offered succinct initial information in plain language, followed by more detailed information as we clicked to get more information. Eventually, interested users could locate specific articulation agreements and transfer guides to find all the information necessary for a preferred destination university.

**Table 3**  
**Assessment of Website Information by College**

College	Transfer Center	Contact Information Provided on Website	Number of Partners	Ease of Access	Usefulness
A	N	N/A	N/A	None	No information
B	N	Individual - not transfer-specific	10	Moderate	Moderate
C	Y	Individual - transfer-specific	8	Moderate	High
D	Y	Office - transfer-specific	10	High	Somewhat
E	Y	Individual - transfer-specific	14	High	High
F	Y	Individual - transfer-specific	33	Low	Low
G	N	Office - not transfer-specific	9	Somewhat	Low
H	N	Office - not transfer-specific	21	High	High
I	N	None	2	Moderate	Low
J	Y	Office - transfer-specific	15	High	High
K	Y	Office - transfer-specific	42	High	High
L	N	Office - not transfer-specific	7	High	High
M	Y	Individual - transfer-specific	22	High	Low
N	Y	Individual - transfer-specific	6	Low	Somewhat
O	Y	Individual - transfer-specific	18	Moderate	High
P	N	Individual - not transfer-specific	32	Moderate	Moderate
Q	Y	Individual - transfer-specific	19	High	High
R	N	None	11	Low	Low
S	N	Office - not transfer-specific	8	High	Moderate
T	N	Office - not transfer-specific	26	High	High

Thirteen of the colleges fell below the highest standard on at least one of the constructs. Five colleges fell just below our highest standard for ease of access (moderately accessible), often due to vague labels that made the information more difficult to find without backtracking, despite appropriate links available on the main page. For example, College M required users to look under the Academics tab and then to select “Partnerships.” While “Partnerships” may be an intuitive label to a staff member who envisions transfer agreements as partnerships, the label seems less intuitive for a transfer-intending student seeking transfer information. Ultimately, the transfer page was 2 clicks from the home page but required students to potentially go through several other links and backtrack in order to find the information.

We rated three colleges as moderately useful, which ultimately means that the information necessary to guide students through transfer processes and policies was largely present but required more organization or detail. The websites also included

occasional lapses in terms of updating materials compared to colleges with high scores on usefulness (though the information was considerably more up-to-date than colleges with lower usefulness ratings).

Most colleges included some locatable information about transfer online, but, on several college websites, the information was inadequate, disorganized, riddled with broken links, or clearly out of date. Colleges categorized as somewhat accessible included online information that was fairly difficult to locate. For example, College N, an urban college that is part of a larger community college system, required a lot of backtracking and navigating around broken links. Once we determine the “right” way to find the information from the main college page, it required 6 clicks—without backtracking—to get to the transfer services page. Colleges with somewhat useful transfer information mostly suffered from disorganization that made it difficult to identify information about transfer services at the college or about processes for transferring to potential destination universities.

We found that low scores on usefulness were more common than low scores for ease of access ( $n = 5$  for low usefulness;  $n = 3$  for low ease of access). The colleges that we rated as low for usefulness included very little information—typically only a list of “partner institutions,” with links that were broken (or in some cases led to the wrong institution). The transfer pages did not include any other information about transfer processes, services, or policies. One of the 20 colleges failed to post any transfer information. The college, which serves several rural counties, had a low transfer rate per the NSC data.

Fewer than half of the college websites offered a specific staff member to contact regarding transfer. Occasionally, staff in our interviews emphasized that their college prioritized face-to-face advising to justify inadequate online information. In that case, we would expect to see clear contact information available to help students identify personnel to answer their questions, which was often not the case. There was also a wide degree of variation in terms of posted information about available “partnerships”—some colleges boasted over 40 partnerships with public universities, while others failed to post any. We use the term “partnership” here, rather than transfer agreement, because several colleges included links to universities they perceive as partners—either due to the volume



of students matriculating there *or* to the holding of an agreement with that institution. It was not always clear whether a transfer agreement existed between institutional partners and, among those colleges that posted explicit transfer agreement information, there was wide variation in the depth and breadth of the agreements. According to staff at colleges that did not include institutional partnership information on their transfer web pages, they do hold articulation agreements; however, the agreements (or transfer guides based on those agreements) were not noted online.

Many community colleges offered direct links to university websites as a means of providing transfer information. In some cases, the links led students to transfer admissions pages, articulation agreements, and degree plans—all relevant to transfer, though some are more helpful to students than others. Several transfer personnel pointed out that articulation agreements are often not intended for student use, but the transfer plans that sometimes result from them can help students navigate transfer. Sometimes the link to a partner university led to the university’s home page, which would then require the student to navigate yet another website to find relevant transfer information.

## **7.2 Insights From Interviews with Community College Personnel**

We spoke with community college officials about their online transfer information, along with other resources available to transfer-intending students. The conversations illuminated some of the logic behind several commonalities we noticed in our website review.

**Reliance on university web pages.** Most personnel rely heavily on university websites for university-specific transfer information, arguing that this information is more reliable than alternatives. This practice reflects a common sentiment among community college personnel that universities are best positioned to offer accurate online transfer information for transfer-intending students. As one community college staff member explained, “If we can get transfer materials straight from the proverbial horse’s mouth, it’s always going to be preferable.” At one college with a high transfer-out rate and bachelor’s degree attainment rate, the institution’s transfer pages rated low in both ease of access and usefulness. The director of advising routinely recommended that students browse university websites rather than the college’s own website:

So I first encourage them to go [online]; this is what I literally tell them, “If you don’t know where you want to go, think of the program you want to do. Let’s say it’s business, if I’m shopping for furniture... I go look at the best furniture and then I find the best furniture in my price range.” So that’s how I explained to them to prioritize how they’re going to search. Then they come back and they have good questions and they have more specific questions. We’ll get into a little searching here, but I like to encourage them and empower them to get in there and research. So then you’ll know what you don’t know and you’ll have specific questions. (Director of advising)

Despite the reliance on university websites, community college personnel held mixed impressions surrounding the ease of access and usefulness of the information found on those websites. One transfer advisor acknowledged that, despite her experience navigating the websites, she frequently had to “dig through several sites to get to the information.” Several community college staff members who use this information daily noted the difficulty they face locating transfer requirements. This is troubling, since many community colleges present transfer requirements to students by linking to university home pages, rather than to transfer-specific pages. Locating transfer requirements is more difficult for college students who have less experience mining transfer information.

In addition to difficulty accessing or navigating online transfer information, we found that information online was often out of date. Some advisors argued that the presence of out-of-date information undermines the goals of publicly posting the information and maintains inequality in information constraints across students and colleges. Up-to-date information—including the current requirements and processes for transfer—is sometimes hidden from the public. Only some community college staff (and the students routinely meeting with them) appeared to have access to those ever-changing transfer requirements. One participant explained:

Courses change, course sequencing changes, updates to entrance pre-requisites or entrance exams, those kinds of things change. So, what’s been difficult is keeping up with all of that. And so unless you have that personal contact at a university or in a specific division, sometimes that’s not always the best solution, and I think that’s one of the

hardest things for a community college. (Director of the transfer center)

Other personnel described the quickly changing nature of transfer information as a reality of the field and came to expect that their college could not provide public access to real-time changes. They placed the blame for out-of-date information on universities for being inconsistent with their own updates and making minimal effort to contact feeder colleges. They also acknowledged that resource constraints at their own community college contributed to the problem, noting that there are not enough staff to keep up with shifting requirements.

**The inadequacy of online information.** Two main themes emerged from the interviews illustrating skepticism among transfer personnel regarding the potential of online information to improve transfer. First, some staff members expressed doubt over whether students use the information. Second, several advisors argued that navigating the transfer process requires face-to-face advising—online information alone is insufficient for most students.

*Students do not take advantage of online information.* Some personnel believed that their college’s online transfer content was not problematic, but felt, rather, that students were not taking advantage of the information offered. One participant explained,

It’s easy to check Facebook every morning, but to actually go on a [community college] website and figure out what’s going on with transfer stuff. I don’t know that they necessarily take full advantage of that. If you know where to go, it’s really easy to navigate and check that out.”  
(Advisor)

In this case, the college website rated high on both ease of access and usefulness. The information students needed to transfer was available online, but they may not have sought it out. This suggests that students may require prompting to seek out that information. A well-designed website may be only part of the solution to gathering appropriate information; students must also be encouraged and guided to use it. At other colleges where personnel held similar beliefs—arguing the students fail to use available information—the online information was not easy to navigate. This indicates a disconnect

between staff's perception of their online transfer resources and the actual quality of the information that is publicly available.

Overall, most personnel who participated in our study recognized the strengths and limitations of their online information. However, a few did not. One of the colleges had very useful transfer information, but it was not intuitively located for students searching the college's website—we rated it moderately accessible. If students knew where to look, they could find it, but it required navigating through some less intuitive labels and broken links from the college's website to the community college system's website (i.e., students would need to know it was provided by the system, not the individual college). The administrator we spoke to did not recognize that students may not think to look at the system website for transfer information, as opposed to the local college website. Another college offered such sparse information that the transfer page was not very useful. Initially, the personnel we interviewed acknowledged, "We have a web page that talks about transfer, but I don't think we have too much information on there." Yet the staff member also said:

[Students] can also go to our college web page. Under advising, toward the end, we have a list of all the universities that oftentimes the students will go to, and it's simply links that they can click on without going to the actual website. Just go to our website and just click on one of those universities that they have interest in. Click on that link and it takes them straight to that page. (Advisor)

The "transfer-specific" page the advisor referred to linked to four universities' home pages, which offered no information about transfer resources. Students would then need to navigate the university websites to find relevant information. This ultimately places a much higher burden on students to overcome their information constraints.

***Face-to-face advising is necessary.*** Some advisors argued that one-on-one transfer advising was necessary to disseminate transfer information. Others argued that advising was, at the least, an important supplement to online information. That perspective seems to be a function of the complexity of transfer and the inadequacy of information provided online. An advisor noted, "It's good stuff to have online but, without the advisor, it can be so confusing," noting that many students need guidance to

find the information that they are looking for online. In a system where institutions are adequately resourced to ensure that *all* students receive advising, relying on the hybrid information dissemination (online and in person) makes sense. However, most community colleges cannot reach every student through one-on-one advising. Pairing face-to-face advising with online information may be ideal, but many students do not meet with advisors. In the absence of accessible and useful online transfer information, how can students who seldom meet with advisors find out about transfer options and requirements?

At most colleges in our sample, transfer information was not offered in orientation sessions. In many cases, transfer was also not incorporated as part of a regular advising session. Instead, obtaining transfer information through advising required students to “opt in” to receive any information—students needed to explicitly request it. When asked where most students find out about their transfer options, several advisors acknowledged that the dissemination of information only starts after students bring it up in an advising session:

Well, it’s usually when they approach us in advising. Some may go to the website to see if there’s any information on transferring. But, generally, they come and ask questions. They will just come [and say] “I want to transfer,” and then that’s when the discussion begins. (Advisor)

Because research suggests that the transfer process starts with early course selection (Monaghan & Attewell, 2015), this opt-in approach puts students at a clear disadvantage if they are unaware that they need to plan for transfer early in their college career. It also disadvantages students who are reticent about reaching out to an advisor and those with time constraints that make difficult to meet in person. At colleges with hard-to-navigate transfer web pages, it is unlikely that students can find the information they need about transfer online. Therefore, if they do not ask for the information, they likely do not receive it.

## 8. Discussion and Implications

Providing easy-to-access and accurate online transfer information is one way to help college students navigate the transfer process. Extant research suggests that some students, particularly those with fewer financial and social resources, are disproportionately impacted by the bureaucratic hurdles and information constraints related to navigating college (Crisp & Nuñez, 2014; Dougherty & Kiezl, 2006). In this project, we examined the extent to which community colleges make transfer information easy to find and whether it is sufficiently clear and complete to guide students through transfer options and requirements. The findings presented here illustrate that many community colleges could stand to improve the ease of access and usefulness of the online information they present to students about transfer. We contribute to the literature by illustrating the variation in the quality of online transfer information, but also by incorporating the perspective of community college advisors and administrators about the dissemination of transfer information. The interviews illuminate additional hurdles to the public display of information—primarily, how do we increase students’ awareness of this information and how can colleges keep that information up to date? But the interview findings also illustrate ambivalence among some community college personnel regarding the value of online transfer information.

The perspectives of staff at a given institution may shape the presentation of information to students. Advisors and administrators are only exposed to a portion of an institution’s student body. An advisor may be more likely to see students who are unaware of or disinclined to access online transfer information; they are less likely to interact with students who rely primarily on online information to navigate college. For that reason, it is important to consider the varied means through which students seek information. Colleges that prefer face-to-face advising may invest fewer resources into presenting information online. But it seems that colleges that do not maintain detailed online information about transfer pathways and services may disadvantage students, especially those who are more reticent to see advisors or have constraints that prevent them from doing so.

The findings from the website review further support Rosenbaum et al.’s (2007) discussion of the hidden curriculum of transfer. Colleges that do not meet the highest

standard on our rubric (about two thirds of the colleges in our sample fall below the highest score on either the accessibility or the usefulness construct) are not illuminating that “curriculum” for all students. By placing the information online in an intuitive location, with adequate detail, colleges offer students the opportunity to understand transfer requirements. A lack of mindfulness toward disseminating transfer information to all students may exacerbate inequality.

To assuage these concerns and improve online transfer information, institutions might use the framework provided by our rubric to guide their assessment of online transfer information provided to students. Our findings highlight the need for well-designed transfer websites. Given the decentralized nature of Texas higher education, it is less feasible for the state to offer one repository of transfer guides, like smaller and more centralized states (as in, e.g., Virginia where the website maintained for students in the Virginia Community College System includes clear transfer requirements for several colleges in one location). However, it seems clear to us that the current system—in which there is little emphasis on or accountability for maintaining transparent and up-to-date transfer information online—is disadvantageous to students.

Our results also highlight challenges associated with bilateral transfer agreements. In a decentralized postsecondary context, students need to know about the varying requirements at different potential destination colleges (in Texas, they cannot assume that their lower-division coursework will apply in the same way to degrees at different institutions). Given all of the possible combinations of programs and universities, it is impossible for advisors and students to be well informed about every option. Ultimately, most community college personnel and students rely on online resources from universities to help students navigate transfer requirements and to develop course plans. Therefore, there is tremendous value in providing and maintaining accurate, easy-to-access information on both community college and university web pages, but many institutional representatives acknowledge that their websites are not kept up to date. As a result, prospective transfer students may follow ill-suited advice in their attempts to comply with university preferences or requirements.

The GAO (2017) recommended that colleges be required to post online which institutions they hold transfer agreements with (this recommendation was rejected by the

federal Department of Education). We find that a lot of colleges in our sample do, at the very least, acknowledge which institutions they “partner” with, but that the quality of those transfer agreements varies; some agreements are very vague, while others articulate how coursework will transfer. The knowledge that a partnership exists is not valuable information for students unless paired with transparent information about the transfer requirements. We recommend that colleges post transfer guides for institutions with whom they hold transfer agreements, to clearly present necessary information—ideally, a “roadmap” of courses that will count toward a desired degree—to students looking to navigate transfer. We also recommend that colleges publicize the availability of that information, when it exists, to ensure that students are aware that they can find the information they need online.

Community college education has the potential to improve labor market and life outcomes for a large swath of the population. Many who attend community colleges aspire to earn a bachelor’s degree. To transfer from a community college to four-year institution, students must make informed choices, often considering a variety of potential educational pathways. To avoid wasting money and time, students in community college need good information to make decisions fairly soon after their initial enrollment about which major and destination university they want to pursue. Yet even very savvy students—those who know precisely which program they hope to earn a degree in—may come up against barriers to transfer and bachelor’s degree attainment if they face information constraints about transfer along the way. The cost of missteps is high: students run the risk of earning credits in courses that will not contribute toward a degree. They often must follow specific recommendations in order to transfer to a desired four-year institution. Ultimately, a system in which that information is not posted publicly, is inadequately detailed, or is incoherently presented puts a great deal of burden on students and undermines the goals of postsecondary institutions to improve the outcomes of their students.



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## Appendix

**Table A1**  
**Institutional Measures and Data Sources for Table 1**

Measure	Source	Description
<b>Campus</b>		
Setting	NCES (2017)	A measure of the urbanicity of the college setting, based on census definitions
Four-year colleges within 50 miles	NCES (2017)	Measure of the number of four-year colleges within 50-mile radius of the college
<b>Student characteristics</b>		
Undergraduates	THECB (2017)	Total undergraduate enrollment in fall 2015, grouped into categories
Part-time	NCES (2017)	Proportion of students enrolled for less than 12 semester credit hours per term
Female	NCES (2017)	Proportion of students who identify as female
Age 25+	NCES (2017)	Proportion of students over the age of 25 at enrollment
In-state	NCES (2017)	Proportion of first-time degree/certificate-seeking undergraduates who qualify as state residents
Distance learners	NCES (2017)	Proportion of undergraduates enrolled at least partially in distance education as fall 2015
Students of color	THECB (2017)	Proportion of students who identify as Hispanic, African American, Asian/Pacific Isl., or “other” (non-White) racial backgrounds
Pell recipients	THECB (2017)	Proportion of students who received a federal Pell grant in fall 2015
<b>Credentials and course completion</b>		
Associate degree	THECB (2017)	Number of associate degrees awarded in 2016, rounded to the nearest 10 to maintain anonymity of colleges
Core completer	THECB (2017)	Number of students awarded core complete recognition in 2016, rounded to the nearest 10

Transfer outcomes		
Low transfer-out rate	NSC (2014)	Dichotomous measure indicating that percentage of students who transferred to a four-year institution from this college was among the lowest in the state. Based on fall 2007 entry cohort data obtained from the National Student Clearinghouse, which was narrowed to enrollees at Texas community colleges.
High transfer-out, low bachelor's degree rate	NSC (2014)	Dichotomous measure indicating that college was in the top half of the colleges in the state in terms of transfer out rate (percentage of students who transferred to a four-year institution was above average), but, among those colleges, had the lowest percent of students who earned a bachelor's degree within six years of initial college entry. Obtained from fall 2007 entry cohort data obtained from the National Student Clearinghouse, which was narrowed to enrollees at Texas community colleges.
High transfer-out, modest bachelor's degree rate	NSC (2014)	Dichotomous measure indicating that college was in the top half of the colleges in the state in terms of transfer-out rate (percent of students who transferred to a four-year institution was above average), but, among those, the college had a middling bachelor's-attainment rate. Obtained from fall 2007 entry cohort data obtained from the National Student Clearinghouse, which was narrowed to enrollees at Texas community colleges.
High transfer-out, high bachelor's degree rate	NSC (2014)	Dichotomous measure indicating that college was in the top half of the colleges in the state in terms of transfer-out rate (percent of students who transferred to a four-year institution was above average) and, among those, the college demonstrated the highest percent of students who earned a bachelor's degree within six years of initial college entry.

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