Inside the Black Box:
The Garbage Can Model of Decision-Making
In Selective College Admissions

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Statement of the Problem

Despite numerous attempts to accurately describe how college administrators make the decision to admit students, and numerous efforts to document how the process occurs, the process by which students are admitted to selective colleges and universities continues to be described as an unknowable "black box" (Lucido, 2015). The frenzy over college admissions spirals onward as an ever-increasing percentage of institutions reject an ever-increasing proportion of applicants in a process described at the elite level as "frenzied, soul-sucking" (Wong, 2016a). Many students and their families worry about finding the right fit, college affordability, and the perceived prestige of the colleges within their application set (Wong, 2016b). Media outlets are quick to cover the annual growth in the number of applications and the subsequent increase in the number of applicants denied admission to their first choice dream school, and perennial efforts are made to provide a "glimpse behind the curtain" (Carapezza, 2016; Kleiner, 1999; Wallenstein, 2016). Others in popular media have concentrated their scrutiny on the decisions-makers themselves, and the pressures and constraints under which they operate, in an effort to shed light on the ambiguity of the process (Hoover, 2016a, 2016b; Maisel, 2013; Schmidt, 2016). Institutions have not exhibited a willingness to put an end to this frenzy, playing their part by expanding recruitment efforts to enroll the most interesting and accomplished class while at the same time heightening prestige measurements, such as selectivity or admit rate, that factor into different rankings systems (Bowen, 1980; Reuben, 2001; Winston, 1999).

Furthermore, how college administrators at selective institutions choose whom to admit from their respective applicant pools remains largely unexplained. The annual report from the National Association of College Admission Counseling perennially adds to this uncertainty,

confirming the variable and inconsistent consideration of multiple factors used in the decision-making process (Clinedinst, Koranteng, & Nicola, 2016). The likelihood of admission becomes more unpredictable at selective colleges and universities, where there are considerably more applicants with generally highly competitive credentials than available admission offers. Given my experience and subsequent review of the literature, I believe this exists for two reasons. First, quite simply, there is too much to know, there are too many pieces of information to consider, and too much taken into account by an admissions committee. On the outside looking in, an individual applicant or her advocates (families, counselors) know only the details of her application. They cannot possibly know the comparable statistics and details of the thousands of other applicants in a given year. Beyond this, parties external to the admissions committee are not afforded the opportunity to understand how the institution's interests are prioritized by the committee members: which institutional priorities are given the greatest attention in a given year, and how well are these desired preferences met by the application pool as a whole.

Second, I read in the extant literature a prevailing desire to illustrate *why* admissions decisions fall as they do, as an indictment of American society at large, while explanations as to *how* decisions are made by admissions officers are absent in the literature. In some or many instances, depending on alternate revenue streams, full-pay, no-need students are admitted at the expense of costly first-generation applicants to help institutions manage the bottom line as federal and state support for higher education wanes. Students with higher standardized test scores are deemed merit-worthy, their scores sending a second signal of prestige to external stakeholders. Athletics play too significant a role in our society and have earned a collective and implicit unfair advantage in the college admissions game. The children of alumni or those of wealthy, philanthropic families are treated preferentially in the hope of future donations. Each of

these explanations for *why* some students are admitted over others have received attention in the literature. Yet, the *how* of the admissions decision-making process remains unaddressed.

Reentering the classroom as a graduate student of higher education after nine years as a practitioner in admissions and enrollment management, I have not encountered research that accurately captures and tests a theory that resembles the complexity I observed regularly. This motivates the proposed research design, a qualitative case study of the admissions committee decision-making process at a selective liberal arts college. Stevens (2007) states, "Committee is the dramatic crest of the annual admissions cycle. It is when all of the many exigencies that officers are charged with managing get explicitly negotiated, and when officers do what the general public perceives them as doing primarily" (p. 185). Committee is the locus of decision, where all of the competing institutional (and personal) interests are negotiated. Committee is where a commitment to action on behalf of the organization is enacted; it is where decisions get made that impact the very composition of the organization itself.

A number of theories offer promise to explain *why* individual level admissions decisions are made in selective environments. Principals of meritocracy certainly justify admission of high-achieving academic applicants, and a broadening definition of merit allows institutions to selectively choose among students based upon organizational needs (Killgore, 2009). Some applicants may be from backgrounds historically-underrepresented in higher education, and their group's relatively recent access to higher education interpreted as political power (Karen, 1985, 1990). Yet other applicants may have realized a competitive advantage in the admissions process due to the effects of disparate resources in an economically stratified modern America (Stevens, 2007). However, none of these theories explain *how* the decision is made, and are particularly deficient in explaining the majority of decisions enacted at the committee table. The Garbage

Can Model of Organization Choice (GCM) offers a promising explanation.

Originally proposed as a quantitative method by Cohen, March & Olsen (1972), GCM theory has since been applied by some qualitative researchers in situations where organizational decisions are too complex to be explained quantitatively. GCM suggests that decisions in organizations take place in an environment of organized anarchy, typified by problematic preferences, unclear technologies, and fluid participation by organizational actors. There are competing institutional goals at play, imperfect and imprecise methods of measurement and prediction available to these actors, whose attention is erratic and fluid as their time and energy to dedicate to the moment of decision are exhausted by other organizational needs. In such an environment, problems of the organization swirl in a virtual garbage can, alongside potential solutions that might suffice to fulfill the needs caused by the problems or preferences facing the organization. Simultaneously, there are organizational decision-makers looking for windows of opportunity to enact decisions. Multiple possible solutions may exist for each problem, and it is the burden of the decision-makers to match them accordingly, despite their limited time, imperfect and ambiguous knowledge, and bounded rationality. Select and imprecise, these windows open only when a commitment to action is made, and there is no promise of a perfect match.

This dissertation research proposes a case study of the admissions committee decision-making process at a selective private college. The dissertation will specifically examine the following research question:

To what extent does the garbage can theory of organizational choice explain the

admissions decision-making process at private, selective liberal arts colleges?

The GCM allows the construction of testable propositions that may be confirmed or negated

during research. Simultaneously, rival theories to explain decisions in this setting, including political power, resource dependence, and bureaucratic rational theory, will be considered as competing explanations for how decisions are executed at selective institutions.

The proposed research addresses Stevens' (2007) observation of the thin body of literature on the admissions process, and the call of Bowman and Bastedo (2016) for more "qualitative research with admissions officers on the decision-making process" (p. 18) to better understand the dynamics at play within the admissions office. If successful in testing the applicability of the GCM to selective admissions decision-making, the results may inform policy-makers and external stakeholders as to the complexity of decisions. Further, this research can illustrate the thoughtfulness that may (or may not, admittedly, in some scenarios) guide admissions decisions, and the import of holistic review. It could prove useful as an introduction to the realities of college admissions for new employees grappling with the frustrations that accompany difficult decisions in a selective environment. Finally, testing the GCM as a theory to explain the admissions decision-making process answers the call from Lomi and Harrison (2012) "to model explicitly the interdependencies connecting participants, problems, solutions, and decision opportunities in organizations" (p. 3).

Related Literature

Background on Selective Admissions

The practice of selective admissions is a relatively recent development in the history of American higher education. Thelin (2004) describes the rather bleak market facing college administrators in the early years of the American colonies, saying, "Most of the colonial colleges both bent admissions requirements and provided preparatory and elementary instruction as a way of gaining revenues and cultivating future student cohorts" (p. 18). A century later, not much had

changed. "On the whole, most 19th century colleges were not exclusionist or elite in matters of

admission. Entrance requirements were flexible, and tuition charges were low" (Thelin, 2004, p.

69). Most institutions were in dire need of tuition revenue and were not in any position to turn

away potential students. As Wechsler (1977) states, "The twentieth century practices of limiting

enrollment to a fraction of the academically qualified candidates and of rejecting some students

with superior academic qualifications in favor of others with more desirable nonacademic

attributes were inconceivable to the old time college president" (p. 8).

Selectively choosing among applicants did not emerge as a practice until the 1910s and

1920s (Thelin, 1982), institutionalized in the form of quotas imposed upon the number of Jewish

students admitted (Karabel, 2005; Reuben, 2001; Synnott, 1979), as "subterfuge for exclusion

based on birth, heritage, and religion" (Thelin, 1985, p. 369). The first institutions to do so were

Columbia and New York University (Synnott, 1979), soon followed by Harvard, Yale, and

Princeton, all in response to the "Jewish problem," cast by administrators as the desire for

students to attend classes without Jewish students. Application processes were adapted to more

readily identify Jewish students so that they would not be offered admission, including

"photographs attached to admission forms, specific questions regarding the applicant's race and

religion, personal interviews, and restriction of scholarship aid" (Synnott, 1979, p. 19). The 1919

annual trustees report prepared by Columbia University detailed the extensive efforts introduced

to vet applicants on their desirability, including "personal background (new application blanks

would ask for the candidate's place of birth, religious affiliation, and father's name, place of

birth, and occupation), leadership in school (measured not only by academic excellence, but also

by participation in activities such as school publications, musical and other organizations,

athletics, patriotic activities, debating, student government, and by the receipt of honors and

prizes), leadership in the community (including patriotic activities, religious and other

organizations, as well as employment), breadth of interests (as measured by outside readings),

and finally motivation and potential (measured by an essay on why the applicant wished to go to

college, why he selected Columbia, and what he expected to make of himself" (Wechsler, 1977,

p. 156).

       Contributing to the need to enact selective admissions policies was the increase in

applications following World War I and again after the Second World War, and the concomitant

desire to maintain the quality of instruction. However, as Thelin (1982) reminds, "most deans of

admission at public and private campuses—even during the 1950s and 1960s—have had to

worry about filling the entering class with reasonably sound students" (p. 140). Selectivity was

not the norm through the mid-twentieth century, but rather "recruitment and survival" (p. 140) at

many institutions. Thus, we witness the emergence of a stratified field of higher education based

on selectivity. "Differences in status among colleges hardened as a clear hierarchy developed,

based, in part, on how academically selective an institution was" (Reuben, 2001, p. 202). The

oldest and most prestigious colleges and universities were able to choose more freely among

multiple applicants to fill their classes. Newer, lesser-resourced and less prestigious institutions

were forced to admit most or all applicants out of necessity.

       It is also critical to distinguish differences between private and public institutions and the

evolution of selective admissions policies. In contrast to efforts at the private institutions to limit

enrollments, the University of Michigan sought to increase enrollment, introducing a policy of

"admission by certificate" in 1870 whereby students graduating from public schools accredited

by Michigan faculty were offered admission without needing to take entrance examinations

(Wechsler, 1977, p. 17). Similarly, the University of California's history includes a long saga of

reconciliation between issues of access and responsible service to the social contract the system

holds to the state's citizens (Douglass, 2007). Arguably it was the introduction in 1960 of the

California State Master Plan that institutionalized the stratification of selective admissions

policies across the entire California system (Reuben, 2001). Indeed, it was not until 1973 that the

University of California at Berkeley became selective in practice (Laird, 2005). Writ large, few

public universities "had the luxury of implementing full-fledged selective admissions policies"

due to state law prohibiting discrimination and public opinion against justification of admissions

fore reasons other than merit (Wechsler, 1977, p. 244).

Influences on the Admissions Decision-Making Process

Higher education institutions serve a number of stakeholders, including students, faculty,

trustees, staff and administration, families, and the public at large. Public institutions are also

likely to identify taxpayers, as well as local, state, and federal government officials, as key

stakeholders. For both private and public colleges and universities, there has been considerable

growth in interest in their activities by corporations, as well. The rise of research parks, and the

heightened investment in research by corporations at the institutional level, certainly classifies

corporations as stakeholders in the modern landscape of academic capitalism. Each one of these

groups influences how admissions decisions are made.

A key internal issue may be resource dependency (Pfeffer & Salancik, 1978), and the

interplay of all of these stakeholders in providing competing revenue streams. Institutions that

are tuition dependent are likely to be more responsive to student demands and more likely to

admit full-pay, no-need applicants. Such institutions must appeal to students and the vital tuition

dollars they bring. Quite simply, then, some students may be admitted primarily or

predominantly on their ability to pay. Well-resourced institutions may be need-blind, admitting

students without regard to ability to pay, confident in the institution's ability to meet 100% of demonstrated need and ensuring or increasing the likelihood of enrollment. Need-sensitive/need-aware institutions have generally promised to meet 100% of demonstrated need but do not have adequate resources to do so without limit; accordingly, the expected family contribution emerges as a key issue and factor in some decisions. Likewise, the potential contributions of a student's family, and the historical legacy status of a family's relationship with the institution, may play a critical role in the admissions decision, particularly at institutions more dependent on donative wealth resources. Some decisions may encompass political issues, both on-campus and beyond. Admissions officers might wish to appease trustees, presidents, or politicians, in hopes of future support for the institution.

Faculty members of the institution likely want students who want to learn, and who are sufficiently prepared to do so. Admissions officers must admit applicants who demonstrate this aptitude (however it may be defined) to maintain employment and fill classroom requirements. Similarly, admissions officers must attract and admit a full complement of academic interests so that all departments are adequately enrolled.

Similarly, colleges and universities with athletic programs need to be certain they have met minimum conference requirements to field varsity teams. Furthermore, it is highly likely that the coaching staffs wish to be competitive, and field the most competitive teams possible. Admission officers may have to balance the potential athletic acumen and contributions to teams relative to standards of academic preparedness.

An overarching issue, both internal and external to the organization, concerns the academic quality of each incoming class. The public and media outlets use metrics such as SAT and ACT score ranges and selectivity rates to determine the prestige and value of institutions.

The higher the score range, and the fewer students admitted, the better the institution must be, according to this logic. Admission officers may be compelled to admit students with higher test scores, and deny students who do not have the social capital to adequately represent their interest in a given college but who might meet other goals of the organization, to serve this rankings environment.

Legal requirements, including the practice of affirmative action and the *narrowly tailored* use of race and ethnicity in admission decisions, apply varying levels of influence on decisions. There are some seminal decisions issued by the U.S. Supreme Court that influence how admissions decisions may be made. The 1978 decision in *Regents of University of California v. Bakke* established precedent for the use of race-conscious admissions programs (Reilly & Mott, 2015). Two 2003 decisions related to the University of Michigan further clarified the use of race as a factor in college admissions. *Grutter v. Bollinger* stated that the "narrowly tailored" use of race in holistic evaluations was permissible. However, the *Gratz v. Bollinger* decision found that the automatic awarding of points in the admissions process was not sufficiently narrowed, and made race a decisive factor in whether or not applicants were admitted. The value of diversity to college campuses was further affirmed in *Fisher v. University of Texas at Austin* (Oyez, n.d.; Schnapper-Casteras, 2016). Likewise, some state legislatures may impose caps on the proportion of out-of-state students enrolled at public institutions. Taxpayers may expect open access institutions, and when admission is denied, admission policies come into scrutiny.

Based on his experience as Director of Undergraduate Admissions at the University of California Berkeley, Laird (2005) offered a series of questions that admissions officers might ask themselves in shaping admissions policies at selective private and public universities. These

questions suggest pressures that bear upon decision-makers in the admissions office. To serve an institution's mission and meet goals, admissions officers might aim:

  • To enroll a class that will most benefit from the institution's curriculum and faculty;
  • To enroll a freshman class with the most distinguished high-school academic records;
  • To enroll a class that will reflect the racial and ethnic diversity of the state;
  • To enroll a freshman class that will be the most engaging to teach in the classroom;
  • To enroll a freshman class that will go on to serve the community, the state, and the nation;
  • To enroll a freshman class that will bring the greatest distinction to the university after graduation;
  • To enroll a class that will earn the highest collective freshman GPA;
  • To enroll a freshman class that will have the highest 4-year (or overall) graduation rate;
  • To enroll a freshman class that will support the institution financially after graduation;
  • To enroll a freshman class with the highest possible test score averages. (Laird, 2005, p. 19)

In short, institutional missions may constrain the independence of decision-makers at selective institutions as they are compelled to serve their respective missions.

The corpus of literature on selective admissions has generally examined the impact of external forces working upon admissions decision-makers. Each of them lends helpful context to the proposed study; however, each of the theories tested fall short of explaining how decisions are actually made given their interest in why certain students are admitted preferentially at the expense of others. In all instances, the site under study is Harvard University or a comparable elite institution. Feldman (1975) is interested in how rules imposed by internal and external stakeholders affect admissions outcomes. The conclusion is that political power wielded over the admissions office by the administration, faculty, alumni, and private preparatory schools determine who is admitted and who is denied entry to Harvard (p. 42). Karen (1985, 1990) similarly concludes that admission to Harvard is determined by political leverage, the result of group struggle and organizational dynamics. Politically-mobilized demographic subgroups such as women, alumni, African American and black students, and other historically-underrepresented

populations, led to momentous and sudden shifts in admissions decisions (Karen, 1985). The

docket system of admissions in practice at Harvard served to "guarantee a minimum number of

places for certain politically-important groups, while limiting these groups' overall numbers in

the entering class" (Karen, 1985, p. 405). In his extensive investigation into the history of access

at Harvard, Yale, and Princeton, Karabel (2005) attributes his understanding of the political

perspective to both Karen and Feldman. More recently, qualitative inquiry by Zimdars (2016)

into the admissions practices at selective, elite universities in England and the United States

concludes that the meritocratic order is solidly intact in college admissions.

First-Hand Accounts of the Decision-Making Process

    Stevens (2007) notes the dearth of empirical qualitative research on college admissions

while highlighting the depth of "workplace memoirs," insider or journalistic accounts intended to

pull back the curtain and reveal the true inner workings of admissions offices. Despite the lack of

academic standards and the benefits of peer review in these pieces, this body of literature offers

valuable insight into the machinations of the admissions processes at selective institutions. At the

same time, passages from these accounts suggest substantial ambiguity regarding the decision-

making process as well as characteristic elements of the GCM at play.

    One of the earliest such efforts by Greene and Minton (1975) drew upon the authors'

collective experiences as a college admissions officer and a high school guidance counselor.

Speaking to the spectrum of interests in which colleges have an interest, they say, "Fair Harvard

has room for running backs as well as walking encyclopedias like Henry Kissinger, and the

admissions office must see to both needs" (p. 71). They include excerpted "reports on

admission" from several colleges at the end of their work, but the *Admission to Amherst College*

in 1973 statement provides the most convincing testament to the ambiguous nature of the admissions process.

The Amherst report states that admissions officers actively sort for "something extra" in each of the applicants once they are deemed admissible by academic standards. Amherst defined "something extra" at the time to include:

> demonstrated intellectual brilliance above and beyond marks and test scores; scholarly achievement in some field; keen interest and achievement in the offerings of an underpopulated department at the College; corroborated talent in art, drama, music, writing or sports; sincere social commitment; the extent of the candidate's interest in Amherst; membership in a minority group or an underrepresented socio-economic class (i.e. blue collar or working class background); being the son of an alumnus or a faculty or staff member; unusual background or experience; geography; our relationship with a particular school. (p. 251)

All of these "something extras" are the characteristics of each applicant, and they represent an opportunity for decision-makers to match them to the priorities swirling before committee members, competing for attention. The statement concludes with a powerful acknowledgement of the unclear technologies upon which the admissions officers rely, and the bounded rationality that constrains their decisions:

> All other things being equal, one or more of the above factors can, and usually does, make the difference. We don't have a crystal ball. We don't have a Ouija board. We don't throw the folders down the stairs, picking only the ones that land right side up. We don't select on the basis of marks and test scores alone. We can't take all the stars. We have many difficult and often painful choices to make. (p. 251)

Their decisions are informed by collective previous experiences with decision-making and outcomes, as the organization looks backward (March & Olsen, 1975, 1976) in an effort to predict the validity of these decisions: "we make every effort to bring to bear on each case a combination of 17 years of experience in the profession" (p. 251). Observations on the outcomes of prior decisions may bias the decision-making process and confound the predictability of it.

The decision-making process observed by Steinberg (2002) during his eight months at Wesleyan University he characterized as "actually quite a messy process" (p. viii). Despite several adaptations by the admissions office to help sort and measure applicants, committee "judgments are just as often intuitive and idiosyncratic" (p. viii). Quantitative analyses of admissions decision-making processes, which look in from the outside, fail to capture "the various, sometimes competing, institutional priorities at play" (p. viii). The degree of ambiguity and the heightened unpredictability associated with admissions decisions, Steinberg concludes, make it impossible "to reveal the secret password for gaining entrance to a top college" because "…no such formula exists" (p. xx).

Whereas Steinberg (2002) chose to follow the cases of individual students through the lens of one admissions officer over the course of an admissions cycle, Toor (2001) provides a more comprehensive experience of selective admissions. Based on her three years as an admissions officer at Duke, Toor (2001) summarizes her lived impressions of the admissions black box: "There are no real secrets, just a process. It's a process that is at its most profound level simply human, all too human" (p. xii). Humans are not perfect, and their decision-making processes introduce ambiguity and uncertainty. When time is short and energy waning, committee decision-making is compromised: "As weariness sets in and blood-sugar levels begin to drop, decisions are not as judiciously made" (p. 166). She acknowledges that time on task and

attention to detail potentially affect decisions on individual applicants, and the very real effects felt by committee members: "Having food does help somewhat, but I always pitied the kids whose high schools came at the end of a long slate" (p. 166). Despite best efforts of the organization to realize consistency in admissions decisions via a prescribed and intentional rules process, committee members are only human, their decision-making subject to the effects of time and energy.

Toor (2001) witnessed and participated in committee decisions that violate bureaucratic rational theory. During the committee's consideration of applicants from Colorado, she notes the decision to deny admission to students whose testing would improve Duke's reported averages—one aspect of prestige measurement. The committee "denied some boring kids with great testing. The director hated to do that—he loved being able to boost the median reported SAT" (p. 173). *Boring* is subjectively and relatively defined, difficult if not impossible to uniformly qualify, and even more so quantify. This observation also violates meritocratic perspectives on decision-making: have not those with "great testing," a supposedly standard means of comparing students from all backgrounds, earned an offer of admission? Even those who outperformed their peers within the smaller contexts of their high schools were not awarded the opportunity to study at Duke: "We took a bunch of valedictorians and denied a number of them as well" (p. 173). These top students were denied at the expense of more qualitatively *interesting* applicants, "some cool kids, outdoorsy types who had bagged the big peaks, skied the black diamond trails, rafted the wily rivers. And lots and lots of mountain bikers" (p. 173). As was the case with the valedictorians, not every *interesting* student was admitted, but many of them were—at the expense of prestige and merit. Alternative theoretical lenses fail to account for these unpredictable actions.

Toor (2001) observes that other offers of admission were only extended because of a student's standing relative to the other applicants from her secondary school. Such "precursive linkages," wherein "a decision on one issue can critically affect the premises for subsequent decisions on a variety of other issues" (Langley, Mintzberg, Pitcher, Posada, & Saint-Macary, 1995, p. 274), are near impossible to predict from outside the committee room. Without full context, some decisions are inexplicable. Toor (2001) presents the decision to admit a highly desirable applicant that resulted in the decision to also admit the valedictorian from the same high school. The valedictorian's application file was labeled with "decision reason Z, or a 'coattails decision'" because the committee preferred to admit "a great Latino applicant, first-generation college" (Toor, 2001, p. 199). She explains, "When there's a student whom we want to take—for whatever reason, either because they will add diversity to the class or because there is an institutional interest in their application—we feel compelled to admit a "better" student so that school [sic] will "understand" the decision" (p. 199).

An additional element of ambiguity is built into Duke's committee process when the director analyzes the class of proposed admits, looking for student characteristics that might be lacking. This "tweaking" process could result in the reversal of decisions for a variety of reasons, according to the desired class profile. The director canvassed his staff, asking them to identify students slated for a waitlist or deny that could move to admit: "Bring me more high-testing Asians. I need more 'impact' kids, more exciting kids to talk about in my convocation speech. We must have more admits from California, Texas, and Florida. We need to pull back twenty North Carolinians—we admitted too many in rounds—my mistake (p. 212)." At the same time, the decision-making process incorporated the chance for committee members to second-guess their collective decisions and to revisit those with which they were unsettled. The director

"realized that committee decisions were sometimes affected by intangibles like the dynamics of the personalities involved, the time of day the decision was being made, and the role blood-sugar levels played" (p. 213). Despite efforts to make the best commitment to action, to operate efficiently while serving numerous competing goals of the organization, the opportunity to look back and question the results of its process was built into the routine of the committee. Be it a tendency to look backwards (March & Olsen, 1975, 1976), a process of double-loop learning (Argyris, 1977), or an institutionalized opportunity to play devil's advocate or protect against the perils of groupthink (Janis, 1982; Janis & Mann, 1977), all decisions are subject to revisit and not final until release—until commitment to action is fulfilled.

One final component of Toor's (2001) experience is the power installed in the hands of each individual admissions officer in the "wild card" (p. 213). Consistent with Stevens' (2007) "rule of one pick" and mentioned as a possible selection model by Rigol (2003) this stands as an exception to expected rules of decision-making and introduces heightened ambiguity into the predictability of decisions. A new preference has entered into the garbage can of competing institutional goals: the personal interests of individual actors. Though these "wild cards" were supposed to be generally admissible, and were subject to final approval by the director, the end result is a commitment to action by the organization that otherwise would not have occurred, entirely un-programmable and unpredictable. Albeit only a handful of decisions within the larger context of thousands of applicants, it is clear that this set of decisions only occur given the happenstance encounters and personal preferences of the individual admissions officers.

Consistent with the GCM, which cannot explain all decisions all of the time, Toor (2001) documents her understanding of a separate, special admissions committee convened to consider applicants of interest to the alumni affairs and development offices. Be it political in the case of

alumni connections, or resource dependence in the concern of development interest, the admissions director "never wanted to admit these kids and had to fight to be able to keep them out" (p. 209). Despite relying upon his admissions colleagues to provide the director "as much ammunition as possible to use against them," he was unable to buffer the decisions of the admissions committee from these forces external to the process: "He usually lost" (p. 209).

These "alum and development rounds" were deliberated in a distinct committee comprised by the admissions director, the development office head, and an Alumni office liaison. It is notable that Toor (2001) highlights the fact that admissions committee members were present, but their decision-making power vetoed: "We were allowed to sit in and to speak only if spoken to" (p. 210). The rank and file admissions officers were de-professionalized; effectively, their power to make the commitment to action on behalf of the organization was removed in the interest of serving "long-term institutional goals and the directions of the university" (p. 210). The existence of this special committee is consistent with the GCM, which was not intended to explain every decision all of the time. At times, the organization needed to preserve and protect alternate revenue resources, or appease long-standing university stakeholders.

However, at the same time it is arguable that these decisions are well accounted for in the GCM. Applicants admitted in the "alum and development round" bore with them characteristics that promised to accomplish organizational goals. Admitting a poor academic student who offers no diversification of the class by standard measurements but whose family includes potential (or past) substantial donors violates assumptions of the academic meritocratic lens, for instance. Yet in the GCM it makes sense: these students simply offered solutions to a different set of problems. They would not have been admitted otherwise without the presence of these competing preferences.

Much of this ambiguity is echoed in Hernandez's (1997) more skeptical take on the admissions process at Dartmouth based on her experience there as an admissions officer. She concludes by encouraging an evaluation process "that recognizes the special student in any guise" (p. 244) after an introduction to the effects of time and energy that bear upon the process: "…sometimes admissions officers will miss subtle points because they are not extremely perceptive readers, or because they are reading too fast, or because they are trying to highlight one main point from a letter, or because they are just plain exhausted from reading applications for seven to eight hours a day for months at a time" (p. 3). Consistent with Toor (2001), the unquantifiable elements of applicants' personal qualities play a significant role in distinguishing between otherwise quantifiably similar academic profiles. She says, "Even in committee, the most interesting students stand out and are chose over those who are less exciting" (Hernandez, 1997, p. 105). The "very difficult and time-consuming process" (p. 105) of committee "is very tough and many bright kids don't get picked because they simply do not stand out enough to be chosen above others in this brutal competition" (p. 103).

Participation is fluid as it is impossible for every committee member to read and evaluate every application, and different combinations of readers may dwell upon different characteristics of the applicants (p. 238). Accordingly, the process reserves time for "docket review" before final decisions are released "to catch inconsistencies or outlier decisions" within high school application groups (p. 240), similar to Toor's (2001) experience at the end of committee.

A somewhat different mechanistic structure for working through the application evaluation and admissions decision-making process is recollected by Fetter (1997). In *Questions and Answers: Reflections on 100,000 Admissions Decisions at Stanford*, the former dean details a process that does not involved committee deliberations. Instead, four application readers (from

a staff of twenty full and part-time readers) are randomly assigned to evaluate each application. Despite the fact that the lack of a committee debate might lessen ambiguity, the process described by Fetter, and the random combination of twenty potential readers, yield an equally ambiguous decision-making scenario.

Fetter (1997) postulates at the time that the Stanford process describes about 35 institutions in the U.S., namely those admitting no more than 30 percent of applicants (p. 8). The most important aspect of an application are the academic credentials, followed by personal achievement outside the classroom (p. 9). She continues to describe additional categories into which students may fall that would receive special consideration, including race/ethnicity, first-generation college-bound status, legacies, athletes, and faculty children. Despite the primacy of academic credentials in review, Fetter (1997) points out that Stanford's process "is sensitive to individual circumstances and the effect they may have on the record of any applicant and the available resources" (p. 10). Application readers "take note both of extenuating circumstances and a variety of cultural and economic situations" (p. 10), compounding the problem of ambiguity and further constraining the predictability of forecasting admissions results.

Similarly to other sources, the Stanford process has a built in process for "fine-tuning" (Fetter, 1997, p. 21). By the time applications make their way to fourth readers, seemingly set decisions may change entirely given greater contextual knowledge of the emerging class. "Judgments can change with greater knowledge and the benefit of time to reflect, so it was not unusual for such readers to admit that they had changed their mind and now leaned toward a 'deny'" (p. 21). Notably, Fetter records this fluidity in instances where the fourth reader may have been the first, as well, a situation made possible by the random distribution of application folders.

This is a process that may defy notions of meritocratic theory and rational decision-making perspectives. "It is fair to generalize that the higher the academic rating, the higher the probability of admission, but ultimately the selection of a freshman class at a highly selective institution involves considerable subjectivity, good judgment, and a sensitive understanding of the criteria for selection and the context of the individual applicant's circumstances, along with a healthy dose of experience to see beyond the quantitative measures" (Fetter, 1997, p. 25). The pressures of time and energy plague the decision-making process, an activity that "has to be experienced to be believed" in which "the demands make for an intellectual and physical marathon" (p. 33). Beyond straightforward calculations and routinized processes, "final decisions must be the consequence of a combination of pragmatism, experience, good judgment, sensitivity to a range of circumstances, independence of thought, and an absolutely essential willingness to make touch choices" (p. 32). While decision-makers at Stanford "admit for life, not for freshman grades," the unclear technologies used in evaluations make it "difficult to get a handle on life's criteria" (p. 15).

The Garbage Can Model of Organizational Decision-Making

To understand how universities make choices and arrive at solutions, Cohen, March, & Olsen (1972) proffer the conceptualization of these organizations as "organized anarchies," characterized by problematic preferences, unclear technologies, and fluid participation (p. 1). Goals of the university are multiple, "inconsistent and ill-defined," lacking structure and better identified as "a loose collection of ideas" (p. 1). Technologies employed by organizational actors are not well understood, and the organization "operates on the basis of simple trial-and error procedures, the residue of learning from the accidents of past experiences, and pragmatic inventions of necessity" (p. 1). An organization's decision-makers "vary in the amount of time

and effort they devote to different domains; involvement varies from one time to another" (p. 1).

Within an organized anarchy, the decision-making process is defined as "collections of choices looking for problems, issues and feelings looking for decision situations in which they might be aired, solutions looking for issues to which they might be an answer, and decision makers looking for work" (Cohen et al., 1972, p. 2). These components are awash in a conceptual garbage can in which time and energy play critical roles in the meaning, definition, identification, and framing of a given choice. "In the garbage can model…a decision is an outcome or interpretation of several relatively independent streams within an organization" (p. 3). This model "calls attention to the strategic effects of timing, through the introduction of choices and problems, the time pattern of available energy, and the impact of organizational structure" (p. 2). All of these theoretical elements find compelling corollaries in the choices made by admissions committees.

The GCM emerged from a group of theorists known as members of "the Carnegie School" who brought a different perspective to the study of organizations. The foundational works for the Carnegie School include *Administrative Behavior* (Simon, 1947), *Organizations* (March & Simon, 1958), and *A Behavioral Theory of the Firm* (Cyert & March, 1963). The tenets of the Carnegie School were threefold: "organizations as the ultimate object of study, decision making as the privileged channel for studying organizations, and behavioral plausibility as a core principle underlying theory building" (Gavetti, Levinthal, & Ocasio, 2007, p. 523). The GCM arose somewhat organically as the authors came to the realization "that the educational institutions that we studied were typified by goals that were both ambiguous and in dispute" (Cohen, March, & Olsen, 2012, p. 21). Such institutions were labeled as organized anarchies, identifiable when attention is scarce, multiple decisions "arenas" compete for problems,

solutions, and decision-makers, and where "problems and solutions arrive at times exogenously determined and are linked partly by their simultaneous arrivals" (p. 22).

Researchers have applied the GCM to higher education decision-making in times of crisis when enrollment targets fell short of budget needs (Riley, 2007). It has been suggested as a theory to explain the enrollment management process at a large universities (Johnson, 2013) where time is short and attention waning. The GCM offers a promising framework to explain the decision-making process at selective institutions because it has been "indispensable, checking the tendency of social scientists to find reason, cause, and function in all behavior, and emphasizing instead the accidental, temporary, shifting, and fluid nature of all social life" (Perrow 1986, p. 136).

Problematic Preferences & Theoretical Integration

Preference sets in colleges and universities do not fall neatly in line with expectations of the theory of choice in the decision situations presented. Rather, an organization "operates on the basis of a variety of inconsistent and ill-defined preferences," perhaps "described better as a loose collection of ideas than as a coherent structure" (Cohen et al., 1972, p. 1). The preference set is partially dependent upon the marketing activities that attracted students into the applicant pool, the composition of which is fluid from year to year based upon resources devoted to recruitment and the acumen of the recruitment staff. At the committee table—the epitome of a "decision situation"—preferences are moving and amorphous as a class takes shape; goals are ambiguous. As seats are filled and the financial aid budget expended as the committee's work progresses, the conversations surrounding each subsequent application evolve. Those involved in the admissions committee must balance the multiple goals of the college with competing

institutional priorities. In effect, each decision on each individual application is a "choice" confronting the institution, a commitment to organizational action.

Committee participants must individually weigh an applicant's potential contributions to and demands upon the college in every decision situation. Some participants may place greater value in a particular ideal: perhaps the diversity officer is primarily interested in admitting students from historically underrepresented ethnic and racial backgrounds, while the athletics liaison wants to see all recruited athletes admitted to the class, and the dean or vice president of enrollment management, acutely aware of the incessant financial pressures burdening the college, advocates for all possible development cases. In such a scenario, it is not a difficult leap to see a parallel in the inconsistent preferences given the organic and ever-changing situation.

Lucido (2015) acknowledges the dearth of research on the final admissions decision-making processes at selective institutions. He also references the frenzied media speculation surrounding this decision-making process, and calls for transparency and insight into the "black box of selective admissions" (Lucido, 2015, p. 162). Readers are directed to the work of Perfetto & College Entrance Examination Board (1999) for "elucidation and evaluation of admission criteria and decision-making processes" (Lucido, 2015, p. 150), in which nine categories are established to classify the philosophical basis driving this process. They are as follows:

Eligibility-Based Models
- Entitlement: the inalienable right of higher education for all.
- Open Access: the education system in America is K20, and higher education should be available for those who qualify.

Performance Based Models
- Meritocracy: higher education as a reward for success.
- Character: higher education as a reward for personal qualities.

Student Capacity to Benefit Models
- Enhancement: higher education must find and nurture talent.
- Mobilization: higher education must promote social and economic mobility.

Student Capacity to Contribute Models
- Investment: access to higher education for the good of society.

- Environmental/Institutional: each institution is driven to meet its own goals and organizational needs, unique unto it, while providing a quality educational experience.
- Fiduciary: higher education is a business, and fiscal integrity is of primary import (Perfetto & Board, 1999, as cited in Lucido, 2015, p. 150).

I argue that these models may be applicable to the decision-making process and serve to justify admissions decisions, in part, some of the time, at a particular college—chiefly selective institutions. Lucido (2015) articulates, "Indeed, most colleges and universities draw from several of these theoretical foundations to align their policies and practices with their missions" (p. 149). An effort to apply any one model to any one admissions process to understand all admissions decisions at a given selective college will certainly fail. However, if these philosophical constructs are conceived of in context of the garbage can model, we see that these models frame and define the numerous competing problematic preferences confronting participants. It is particularly difficult to understand the machinations of the black box precisely because there are so many constructs shaping the decision-making process. The decision on one individual applicant may make complete sense from one approach while looking entirely inconsistent when viewed from a competing perspective.

I theorize that highly selective colleges are able to draw upon a greater number of these admission models to justify any particular decision, and that these there exists an *ambiguity continuum* along which these philosophical models array. The more selective an institution, the higher the freedom to factor in more subjective criteria associated with an applicant's capacity to benefit and potential to contribute. Conversely, open-access colleges or institutions that admit a large percentage of all applicants in an effort to meet enrollment targets fall on the opposite of the continuum. These institutions will operate under pure eligibility philosophies.

In like fashion, the common first-year class selection models documented by Rigol (2003) map upon the theorized ambiguity continuum. These models include:

- Multiple readers to committee for decision;

- Team readings to decision or further review (usually structured as sub-committees);

- Single reader to decision or further review;

- Reader(s) to computer for decision or further review;

- Computer to committee for decision;

- Computer plus reader ratings for decision; and,

- Computer to decision or further review. (Rigol, 2003)

Highly selective institutions will tend to have one of the first two models for admissions decision-making in place. In such settings, I theorize, there exists greater ambiguity in the deliberative and evaluative processes because decisions are less programmable and less routinized. Simply put, lower selectivity translates to a decreased ability to exercise judgment. I propose there exists a continuum of freedom within college admissions decisions, largely dictated by resources, both human and financial. Organizations with poor endowments are captured by their environments, subject to demands of resource providers, whereas wealthier schools benefit from increasing degrees of independence, relative to resources (Baldridge, 1983). Selective organizations with greater slack, afforded by higher resources and autonomy, may exact decisions that are less programmed and formulaic than their peers, or less responsive to demands (Perrow, 1986; Simon, 1977). They have greater freedom to experiment, the ability to conduct more extensive, less bounded searches for their solutions, and the flexibility to actively "test-make" and interpret environments (Weick & Daft, 1983). Selective higher education institutions are afforded the opportunity to strike appropriate balance between exploration and

exploitation in pursuit of resources (March, 1991). As organizations move to the selective end of

this continuum, the garbage can model better describes the process of decision-making. More

solutions are attracted to solve a greater number of problems, creating layers of complex decision

opportunities that are inexplicable to the outside observer, or to those hoping to seek rationality

within the process. Appendix I illustrates the overlay of these admissions typologies upon

organizational theory, creating an ambiguity scale to gauge admissions decision-making.

As an exercise to conceptualize the degree of ambiguity that surrounds the admissions

decision-making process, please refer to Appendix II. This provides an illustration of theorized

institutional processes, responses to environmental stimuli, and decision-making according to an

institution's admissions selectivity. Open access schools and those with high admit rates, where

the need for fine distinction is neither necessary, possible, nor administratively feasible, require

greater routinization. Application-wealthy institutions exhibit heightened flexibility in exploring

to find solutions to problems, enabled to more broadly define competing institutional

preferences. Alternatively, open access or eligibility-based practitioners are more likely to

exploit their environments, overly dependent upon the applicants and corollary characteristics

that have found them. Highly selective institutions benefit from deep applicant pools that serve

as a buffer from external forces, and are more likely to generate isomorphic forces downward

than be subject to their pressures from the field below.

Unclear Technologies

In an organized anarchy, organizational processes are based upon "simple trial-and-error

procedures, the residue of learning from the accidents of past experience, and pragmatic

inventions of necessity" (Cohen et al., 1972, p. 1). Despite the ability of colleges to "survive and

even produce," members of the organization do not truly understand how these processes

function as means to serve end-goals. After committee decisions have been made, enrollment

offices run elaborate regressions (or hire outside statisticians to do the same) to predict yield

based upon enrollment trends from private years, but how well do these analyses capture current

student behavior and account for shifting environmental factors? How well do admissions

professionals understand the metrics used to evaluate applicants, such as the SAT, ACT, AP or

IB curricula and examinations—not to mention grading scales and criteria that vary from school

to school, class to class, teacher to teacher? What role does subjectivity play in the supposed

objective evaluation of an applicant's credentials—what is the impact when an application essay

misses the mark or offends one reader and not another? How do admissions officers learn to

evaluate and rank the competing multiple intelligences of different applicants? Coleman (2011)

argues against standardized testing in part because it fails to measure all of Howard Gardner's

nine intelligences, while also serving as a poor measure of both logical-mathematical and

linguistic intelligence. If in fact admissions officers wish to enroll a heterogeneous class of

diverse talents, including the alternate intelligences of musical, spatial, bodily-kinesthetic,

interpersonal and intrapersonal, naturalist, and existential (Gardner, 1998), what technology

exists to accurately evaluate talent across these areas in any applicant pool? These questions hint

at the unclear technologies at play in an enrollment management scenario.

Despite having standardized testing to aid in admissions decisions, historic biases and

admitted shortcomings surround the ACT and SAT (Kidder & Rosner, 2002). We know that

standardized testing is a better indicator of parental income than it is academic performance

(Schaeffer, 2012), so it must be asked what role this standardized technology plays in admissions

decisions. Furthermore, given the secondary school landscape devoid of a standardized

curriculum and plagued by school-specific grade scales, how accurate are application

evaluations, relative to one another? What is the accuracy of yield estimates employed by

enrollment managers who consider demonstrated interest as a factor in admissions decisions?

How much insight is gained into the student's own decision-making process by tracking

behavior, and how clear are these observations? And finally, given the indisputable facts of

retention, persistence, and graduation rates below 100 percent, transfer students abandoning

institutions, failing GPAs, change in majors, and perhaps even underperforming athletes, to what

extent are technological admissions tools clear and successful? In short, unclear technologies

abound in the admissions environment. Many decisions and predictions are based upon simple

observations from previous cycles—a process of trial-and-error and learning from past

experiences.

Fluid Participation

The final property characterizing organized anarchies addresses participants' "amount of

time and effort they devote to different domains," acknowledging that "involvement varies from

one time to another" (Cohen et al., 1972, p. 1). Given fluctuating levels of available energy and

time on task, organizational boundaries likewise fluctuate.

Though enrollment management models and organizational/operative structures persists

from year-to-year, the reality is that individual participation in admissions decisions varies on a

month-to-month, hour-to-hour, day-by-day basis. Application reading and evaluation processes

require the input of many participants whose schedules place varying imperatives upon them on

any given day. Likewise, committee deliberations fluidly evolve dependent upon the committee

members present and actively engaged in the decision situation at hand. While standard

operating procedures are in place to guide participants to desirable solutions, the effects of time,

attention, and energy alter the impact they may have in any individual choice situation.

Choices or decisions arrived at on the first day of committee may deviate drastically from those reached on the final day of a two-week convening. Similarly, application evaluations are likely to evolve over the four-month or longer reading period, as exhaustion sets in and deadlines loom ever larger. Furthermore, some admissions decision-making models convene sub-committees over the course of several months, comprised of subsets of admissions officers and faculty members. With what certainty is it that these different groups will decide upon the like choice with any consistency across this period?

Applying the garbage can

Having established that the three properties of organized anarchies are present in some of the admissions decision-making process models, we can identify the four variables flowing throughout the garbage can. These problems, solutions, participants, and choice opportunities are independent streams, and "a decision is an outcome or interpretation" arising from the interrelations among them (pp. 2-3).

The first stream is comprised of problems confronting the organization, and in particular, members of the enrollment management department. In the liberal arts college setting considered by Kraatz, Ventresca, and Deng (2010), problems can be interpreted as being twofold—both internal and external to an admissions office. Internal problems are the competing institutional priorities at play detailed prior, and the optimization thereof, including ethnic and racial diversity; first-generation college-bound status; athletic, musical, and artistic talent; STEM proficiency; gender; geographic diversity; and, institutional development. External problems are imposed by departments outside of the admissions unit—need- and merit-based aid budgets set by the office of finance; revenue and discount target rates set by the same; available on-campus

housing set by residential life; targets for academic department enrollment set by the registrar; and, legacy interests (which is both internal and external).

Solutions represent the second stream within the garbage can. For selective liberal arts colleges, potential solutions exist within the application pool in a given year. Applicants are, in effect, "solutions looking for issues to which they might be the answer" (p. 2). These applicants may provide vital tuition dollars, help the admissions office meet diversity enrollment targets, or fill out athletic rosters with valuable talent. Some solutions may contribute to the band or orchestra, while others fill seats in art classes or spaces in the physics lab. Similarly, nonresident students offer geographical diversity, a solution to the problems of homogeneity and hedges against regional economic recessions. Of course, these students are defined by academic metrics such as standardized test results and GPAs, and as solutions, higher metrics translate to higher rankings. These are solutions to prestige problems within the marketplace.

The third stream is made up of participants who "come and go," whose levels of participation vary dependent upon other demands exterior to the admissions decision-making process. Admissions officers enter the garbage can the moment that application reading begins each year, and their participation ebbs and flows until a class is set and enrollment deposits are secured. They might not be fully present in evaluating a certain application, or perhaps they are distracted at the committee table by recent events or in advance of their own case presentations upcoming. Worse yet, maybe certain officers are periodically called from the committee table to attend to other business, resulting in temporary imbalances in power within the committee structure. In short, energy and time clearly impact the roles played by participants in decision situations.

Finally, choice opportunity streams "are occasions when an organization is expected to produce behavior that can be called a decision" (p. 3). This is the window of opportunity wherein problems, solutions, and participants align to make a specific choice—offering admission individually and en masse to applicants whose personal qualities and individual attributes address the ambiguous goals of the institution. Taken individually without the benefit of context, choices may make little sense from the outside looking in. Taken en masse, it is possible to see that a near infinite number of choice opportunities exist within an applicant pool of several thousand "solutions."

Indications of the GCM in Existing Admissions Decision-Making Literature

Reflecting on forty years of living with their theory, Cohen, March, and Olsen (2012) remind us that their conception of the garbage can model was "originally presented as *an aspect* of organizational decision making" (p. 23, italics in original), offering "*A…model*" as opposed to "*The…model*" of choice processes within organizations. Acknowledging that organizations "do provide some control and accomplish some purposes," these are accomplished via a process that "often makes meaning and generates action through temporal orderings that can defy understanding, purpose, or control" (p. 23). This is so because of the role of human actors within organizations and their agency within the structure of the given organization—albeit an agency that "is both bounded and contextually variable" (p. 23).

In the same volume, Gibson (2012) revisits Allison's (1969) application of the three models of rational, organizational process, and politic decision-making to understand the event sequences at play during the Cuban missile crisis. He instead applies the garbage can model, saying the theory "offers an account of how decisions are *actually* made, rather than how we imagine they are made when we liken organizations to unitary, rational, and self-consistent

decision makers" (p. 35). The garbage can model accommodates for the participants in control of organizations and subunits, as opposed to ascribing organizational behavior to the organization itself.

Though Karabel (2005) acknowledges Feldman (1975) in part for his understanding of the admissions process as driven by politics, Feldman's own approach suggests much more at play and deserves consideration. Indeed, she states regarding her observations into the Harvard admissions office in 1970-71, "criteria for selection often seem ambiguous and their choices capricious" (Feldman, 1975, p. 2). Suggesting competing rationales to justify admissions decisions, such as admissions based on merit, auction, or lottery, Feldman states that these would be inadequate stand-alone policies because "they patently fail to accommodate conflicting institutional and social values" (p. 10). She continues: "Admissions decisions are supposed to reflect merit and protect privilege, to promote social mobility while they regulate access to positions of wealth and status in the society" (p. 10). Yet, no rule—simple or complex—can balance competing and at times adversarial ends. In turn, "multiple criteria allow admissions decisions to encompass a wider range of interests than any single criterion of admission" (p. 14). As a result, "Harvard defends its right to choose its undergraduates on the basis of a wide variety of cultural, social, economic, personal and academic characteristics despite (or because of) the fact that such considerations invest the admissions committee with broad discretionary powers and obscure its policies in ambiguity" (p. 14).

Feldman (1975) does not seem to be describing the unfolding of a political process in the hands of the admissions committee members. In fact, she concludes that something altogether different explains Harvard admissions decisions: the discretion of the committee to balance competing priorities. "The basic purpose of Harvard's admissions policy is to allow the

admissions committee to select the best applicants possible within a set of financial and political

constraints that sometimes appear to dictate decisions which deviate from the committee's

definition of excellence" (p. 145). Politics are but one consideration—in Feldman's analysis, a

bounding factor to the agency of the admissions committee members, playing much the same

role as budgetary concerns.

A 1975 *Harvard Today* article by Frances D. Fisher echoes many of Feldman's

observations. In fact, "A Day and a Half in the Harvard Admissions Office" describes a process

that strongly suggests elements of the garbage can model at play. Fisher (1975), director of

Harvard's Office of Career Services and Off-Campus Learning, was afforded the opportunity to

observe meetings of the Harvard Admissions Committee as it made decisions on the Class of

1978. He walked away "impressed with the variety of factors that were kept under

consideration" (p. 12) throughout deliberations, concluding "that if there was a hidden agenda,"

he did not discover it. In his estimation, the "tests" applied to each applicant "seemed good ones:

variety, excellence, the estimate that Harvard would contribute much to the individual and he to

Harvard" (p. 12). It is challenging to attain problematic preferences and satisfy such goals,

ambiguous in their definition, when technologies to gauge excellence and the broad vector of

personal characteristics encompassed in the applicants' variety. How does the committee

evaluate and prioritize "variety" and "excellence," and in what arenas are applicants expected to

exhibit these characteristics? Is there an accurate means of calculating future contributions to the

university, or to estimate the impact the university will have upon the student in the coming four

years?

After spending twenty minutes on the fate of one applicant—in a year in which Harvard

received approximately 7,500 applications—Fisher "began to wonder how we were ever going to

finish the process" (p. 11). Time and energy were clearly at play. "Perhaps a third of those who were not in the running could be determined solely from a review of the docket, but in the day and a half that [he] was present," Fisher estimates, "[they] must have spent over half an hour on at least four cases and close to that amount of time on many others" (p. 12). The docket to which Fisher (1975) refers is a printed binder that summarizes each applicant by an intricate number system, attached as Figure 1. While this may not be precisely what March (1994) had in mind in his conception of magic numbers, it undoubtedly suggests unclear technologies. It is also interesting in light of Posselt's (2014) invocation of Klitgaard (1985) and the "magic simplicity" of test scores in graduate admissions. And, these technologies are enacted by committee members who work in service to problematic preferences: preferences that are important enough to garner their own number on the docket, including academic strength, extracurricular activities, athletics, personality, recommendation letters, father's occupation, legacy status, ethnicity/race, career plans, board scores, and GPA (Fisher, p. 11).

Some historical research provides evidence of garbage can decision-making at play within Harvard prior to Fisher (1975), and in fact, predates the model itself. In her thorough history documenting the emergence of selective admissions practices at Harvard, Yale, and Princeton, Synnott (1979) draws extensively upon institutional archives to complete her narrative. Her sourcing includes original material from Harvard, in which elements of the garbage can model are suggested in the professional reflections of William J. Bender, Harvard College dean of admissions from 1952 to 1960. Synnott (1979) draws from Bender's correspondence files to describe the difficulty in identifying whom among the deserving and, to an extent, the undeserving, should be admitted to Harvard. Being all male at the time, Harvard's

admissions office had to weigh costs and benefits associated with seven distinct student profiles,

upon which the "success" of undergraduate enrollment hinged. These included:

> alumni sons; Greater Boston social and financial upper-bracket families; those from
>
> selected private schools; sons of successful business and professional men who usually
>
> had attended other colleges or perhaps one of Harvard's graduate or professional schools;
>
> able, ambitious boys on scholarship from other parts of the country often the only
>
> representative from their school; and, the sons of middle- and lower-income families
>
> from eastern Massachusetts, including commuters. (Synnott, 1979, p. 206)

Bender argued at the time that admissions decisions should not be decided on a small set of

criteria such as tests and GPAs. Rather, "factors of alumni loyalty and financial support, relations

with feeder schools, geographical representation, and local goodwill had also to be considered"

(p. 206). Financial contributions as well as political considerations impacted decisions: "three-

fourths of the students must be "paying customers"; at the same time, a number of Cambridge

and Boston-area applicants had to be admitted for "political considerations" (p 206). Some

students would be admitted because they deserved the opportunity and had earned their place in

the class. Others would be admitted because Harvard needed the money, and yet others because

it was the politically astute move.

Further complicating the decision-making landscape were ancillary concerns from

external and internal groups. Alumni were active in shared recruitment efforts. Bender felt that

"not only should a certain percentage of alumni sons be accepted…but alumni efforts at

recruitment should be rewarded by taking their most promising candidates, especially when they

resided in the South and West" (p. 207). And he was equally convinced that admitting students

of athletic talent served Harvard well: "competitive, if not winning, teams improved Harvard's

image nationally and maintained alumni enthusiasm" (p. 207). Bender did not express concern at accusations or suspicions that the Harvard admissions process preferenced certain individuals (or more accurately their characteristics) over others; his concern was with defining the limits such preferences should play in the respective decisions (p. 207). Multiple, competing goals of the organization sought solutions within the applicant pool; there was not cause to be abashed by the reality that certain students were admitted for less-than-meritorious reasons. Bender's only worry was that too many decisions might consume the process.

Projecting the GCM Onto Observations at Yale

A *New Yorker* staff writer spent several months with members of the Yale University admissions office as it shaped the 1961 incoming class. First published as an article, Kinkead's (1961) *How an Ivy League College Decides on Admissions* was extended into a book, offered as "heartening" insight into "an individual and personal process" (p. 6). A journalistic inquiry and never portrayed as empirical research, the book did not venture to proffer any theories in explanation for what she recorded. Infrequently cited—though Karen (1985) did include Kinkead in his dissertation references—Kinkead benefits from a rereading through the lens of the garbage can model of decision making. Indeed, the book as a whole offers an ideal application of the model, as time and again what is described by Kinkead finds meaning within the ambiguity and happenstance of the garbage can, as choice opportunities arise within committee deliberations.

The sections that follow break down the various components of the garbage can model interpreted in Kinkead (1961) and attempt to categorize vignettes in a manner consistent with expectations of the model. Again, certain offers of admission to Yale University for the incoming freshman class of 1961 are easily explained as politically, rationally, or economically justified. Yet none of these theories explain *every* decision to admit or deny individuals to the class.

Likewise, the garbage can model does not explain all such decisions; in fact, some individual

decisions may make more sense when viewed as a political concession, for example. It is

important to recall the caution of the model's authors on the characteristics of an organized

anarchy here: "They are characteristic of any organization in part—part of the time" (Cohen et

al., 1972, p. 1). However, when attempting to understand other (non-political) decisions within

the context of thousands of decisions executed by the committee on behalf of the university, only

the garbage can model accounts for problems, solutions, participants, and choice opportunities

within the organized anarchy defined by problematic preferences, unclear technologies, and fluid

participation (Cohen et al., 1972). Each component will receive individual attention in the

coming pages drawn from Kinkead (1961).

Yale's Solutions, Problems, and Problematic Preferences

Central to Kinkead's (1961) work is Arthur Howe, Jr., Dean of Admissions and Director

of Yale's Office of Admissions and Freshman Scholarships. His insights were invaluable to

setting the scene for Kinkead; likewise, Howe's description of the terms of the decision-making

process is critical to this analysis. Within the organized anarchy of the selective college

admissions office, actors are likely to be bounded by budgetary and housing concerns. Despite

the prestige of the Ivy League, Yale in 1961 was not an exception to such constraints. Howe

reported to Kinkead, "the only university restrictions under which the group operates are those

limiting the class size and those stipulating the amount of money available for scholarships,

loans, and jobs" (p. 82). As long as the financial aid budget was not exceeded, and enrollment

did not exceed available on-campus housing, Howe and his colleagues were free to admit

students as they saw fit.

However, the problems facing Yale and the admissions committee were fluid, varying from year to year, and indeed, it can be argued, case-by-case. Different needs of the university may arise periodically and demand attention: missing tuba players for the band, a starting quarterback, or ample numbers of physics measures to justify departmental support levels. As soon as that star musician or accomplished quarterback is admitted, the problem effectually disappears, satisfied by the solution. Acknowledging what may seem to be fuzzy logic (Weick & Daft, 1983) when viewed from an external vantage point, yet certainly striking of problematic preferences, Howe shared, "It's practically impossible for us to say anything about admissions these days without sounding either smug or obscure. From time to time a college may get out of balance and have special needs or problems that are temporarily reflected in its admission policy" (p. 16). Put simply, problems arise for which the organization seeks solutions. Once the solution has offered itself to the problem, it is incumbent upon the decision-maker to act upon the window of opportunity and meet the organization goal, pairing the solution to the problem. With the problem overcome, other preferences of the organization gain attention.

Howe's notion of "balance" does not apply solely to the current composition of the student body; the university may have allowed itself inadvertently to overlook certain goals or stakeholder desires. In some instances, Howe says, decisions on average applicants may "depend not only on their personalities and their scholastic credentials but on the geographical and educational diversity of their backgrounds…on the need for strengthening existing links with schools or alumni groups, or establishing new ones; and, in a good number of cases, on whether the applicant's father happens to be a Yale alumnus" (p. 54). Students may gain an offer of admission because some variable component of their application meets one or more of the competing goals (preferences) of the organization: a geographically diverse class, prioritizing

first-generation college-bound students, filling esoteric or sparsely enrolled majors, building

relationships with important secondary schools, or maintaining a supportive base of alumni and

their prospective donations. The decision may be justified in context of the competing

preferences of the organization and the available solutions within the choice set of the applicant

pool.

At other times, it may be precisely the characteristics a student presents that garner an

offer of admission. The university desires a heterogeneous class with varied interests,

backgrounds, and experiences. Problematically, this likely requires an intensive, time-

consuming, and costly search. Howe, speaking on the problematic preferences and goal

ambiguity of Yale, says, "A favorite word around here is 'diversity.' First of all, we believe that

our student body should be drawn from more than the five per cent of American families who

can afford Yale. We know that a quarter of the country's highly talented youngsters never go to

college, and one of our big jobs is to find some of these, interest them in Yale, and give them

financial help if they need it" (p. 27). Yale desires an accomplished and talented class of varied

talents, and the committee is dedicated to seeking out possible solutions wherever they may be:

"What we're really after is diversity of talent and interest—boys with the unusual flair. They

may be found in our back yard as well as in Sitka, Alaska" (p. 27).

Despite a sufficiently deep pool of applicants standing as solutions to the problems facing

Yale's admissions committee, certain solutions may escape matching to a problem at Yale and

instead choose to enroll at a competitor. The Yale committee cannot know the preferences of its

applicants, nor can members be absolutely certain where else students have applications pending

or will be admitted. As Kinkead states,

…the admissions men very often have no way of discovering how many other colleges

each applicant is trying for, nor have they any way of knowing, after they have spent

months poring over qualifications and culling their lists, how many of the students they

decide to admit actually intend to come to their college, or how many of the brilliant,

needy youths whom they attempt to lure with scholarships will rise to the bait. (p. 15)

Thus, the committee members are bounded in their ability to behave rationally, limited by what

they can know for certain and by the actions of both students and other organizations, members

of their institutional field. Preferences and problems may be just as ambiguous as goals. Choice

opportunities are lost when students deposit elsewhere or withdraw applications.

Yale's Unclear Technologies

Early in her work, Kinkead sat with Howe to gather an understanding of his

conceptualization of the work he does on behalf of Yale. Acknowledging that means of student

application evaluation are imprecise, Howe stated, "…we hurt more people than we can ever

please. And because we must constantly make judgments and predictions about the characters

and future contributions of human beings, we make mistakes" (p. 21). How precisely do

committees evaluate what teenagers might become? How can admissions professionals clearly

gauge character, and who serves as arbiter to determine what personal characteristics are more or

less desirable? Howe adds more at a later point that also speaks to problematic preferences:

"Actually, in judging a boy's academic ability, we give less weight to test scores than we do to

his four-year high-school record. Besides, academic ability is only half of the matter; the other

half is what we call promise as a person. You could sum up what we're after as brains *and*

character. We don't put either one first" (p. 25). What is the appropriate characteristic mix or

balance between "brains" and "character"? Is there a universal tool for estimating character?

Illustrating the inefficiencies of unclear technologies employed by the admissions officers, Howe continues:

> If high academic ability were the only criterion, we would have to eliminate quite a few future Presidents of the country and great college teachers, to say nothing of the boys of sterling personal quality Yale would be a poor place without. But high intelligence combined with imagination, vitality, a concern for others, and a capacity for growth— those are the things we're looking for. (p. 25)

If a more rational bureaucratic process were in effect, it would likely exclude the very national leaders the university so desperately hopes to educate. In what would be described in other models as irrational, the admissions committee willingly sacrifices academic talent for qualities that enhance the life of the university.

At times, decision-making windows of opportunity seemingly open when certain applicants are identified, yet unclear technologies leave the success of the solution-problem pairing in doubt. Howe reflected on occasional decisions to admit certain students on financial aid, and its impact on the student and his experience in the Yale community, as yet unknown:

> Sometimes we have to decide whether giving such aid is creating opportunity or causing injury. Take a boy, for instance, from a backward community or an uneducated family. Does he have the stamina to make the often painful adjustment to this highly articulate, sophisticated student body? And can he do it quickly enough to bring out his real distinction or will the academic and social competition here kill him before he gets off the ground? Those are some of the questions we have to ask ourselves. (p. 27)

It is unclear if the possible solution before the committee—such a desirable candidate because he meets many of the expressed preferences of the university—would meet with success, progress

through to degree, or give rise to other problems such as declines in retention and graduation

rates. Certainly it would be irrational to deny such a student if technologies existed to indicate he

would succeed. However, in the absence of such precise evaluation tools, decision makers are

left to chance, instinct, and learned experience, their rationality bounded and contextual (March,

1978).

In an effort to improve informational and material input into the decision making process,

Yale introduced its "University Committee on Enrollment and Scholarships" in 1943.

Coordinated at the time by Waldo Johnston, the principal alumni liaison, this committee included

some eleven hundred Yale alumni distributed across the country responsible for interviewing

three thousand applicants annually (p. 55). Kinkead quotes Johnston in what can be read as an

effort by Yale to reduce its unclear technologies employed in evaluating possible solutions to the

problematic preferences the admissions office faced:

> …the committee was started after we found ourselves admitting too many boys who were
>
> well qualified from the academic point of view but not from any other. Of course, we do
>
> want outstanding scholars, but how are we to find out more about the *spirit* of a
>
> candidate—the selflessness, integrity, and honesty that are so badly needed in this day of
>
> false ideals? It's in making this sort of judgment of candidates that the alumni
>
> interviewers fill an important need. (p. 55)

Yale purposefully moved to exponentially expand its information-gathering efforts via character

evaluative interviews. Effectively, Yale's administrators embraced the reality that it was a

multicephalous organization (Weick, 1976) to realize the benefit of more evaluative heads

involved in decision making. Interestingly enough, this adaptation necessitated its own

subsequent interpretation, as alumni allowed personal biases to color their evaluations, rendering

their contributions unclear to varying degree: "We realize that such judgments are very hard to make, and naturally the alumni vary sharply in their skill at making them. But we come to know each interviewer's prejudices and predilections pretty well, and are able to make allowances for them" (Johnston quoted in Kinkead, p. 55).

When Kinkead was afforded the opportunity to observe committee discussions, she witnessed the effect of unclear technologies at play, as members debated the worthiness of students—each applicant a potential solution to the myriad competing problems and preferences. Time constraints, available attention, and energy affected the ultimate outcome as a function of inefficient, imprecise, and ineffective technologies: "Another prolonged disagreement had arisen over the candidacy of a boy from a small fundamentalist religious sect known for its rigid customs and outlook. Debate went on for an hour and a half over whether the youngster could adjust to Yale without a profound shock to his equilibrium" (p. 89). The absence of a clear technology contributed to the time expended on one decision among thousands, taxing the attention and energy of the decision-makers. Notably, the student under consideration was ultimately admitted, though it required a bureaucratic action as Howe, acting as chairman of the admissions committee, called for a vote.

Even elements of the evaluation that seemingly should operate more clearly and objectively Kinkead observed to be rather opaque. Interpreting student grades and standardizing them to a common term was an arduous and involved process:

> There are at least forty different grading patterns [Associate Professor and director of the Office of Educational Research Paul] Burnham's office has to contend with, not to mention each school's interpretation of its pattern. Not only do some institutions have passing grades of 75 and others of 50, but an E can mean in turn excellent, passing, or

failing. There are systems running A, B, C, D, and E, and E, D, C, B, and A, as well as

numerical schemes of from 1 to 5 and from 5 to 1. (p. 47)

Burnham's office was responsible, in effect, for interpreting the environment upon which Yale

depended to fulfill its many missions. Grading styles varied wildly:

Certain schools give letter grades for examinations and numerical grades for term marks,

and others reverse the procedure. Some use percentiles; an occasional one finds a pupil's

work satisfactory or unsatisfactory according to his potential or to his classmates'

achievements; and a few rate students into fifths on a group scale. Missouri stands by E,

S, M, and G; the French have a scale of from 1 to 20; one establishment settles for plain

Good and Bad; and English applicants to Yale often present the results of their

Cambridge University matriculating examination, which are so esoteric Burnham's office

is unable to process them. Most of these many patterns are further complicated by the use

of plus or minus to the extent even, in one instance, of a 1 minus rating higher than 1

plus. (pp. 47-48)

Perhaps somewhat a literal interpretation, but in effect Kinkead witnessed the organization

actively sense-making to gain a more accurate understanding of inputs available to it. As Weick

and Daft (1983) suggest, "Interpretation systems try to make sense of the flowing, changing,

equivocal chaos that constitutes the sum total of the external environment" (p. 78).

Misinterpreting the environmental supply chain threatens the performance of the organization: if

ill-prepared students are mistakenly admitted, vital outcome measurements such as retention,

graduation, and student learning will suffer.

Burnham's interpretations informed the calculation of a "School Grade Adjusted," or

S.G.A., which was factored into a regression along with College Board examination results to

predict a student's grades in his first year at Yale (p. 48). This predicted college GPA appeared

on the printed docket to inform decision-making. However, the accuracy of this prediction was

unclear, at best, because it required personal knowledge of the context in which each applicant

had studied in secondary school. In 1961, "There were 1,753 boys…applying from schools about

whose standards Yale was well-informed, and 2,253 boys from schools about which it had little

or no experience. Burnham had been able to make predictions for 4,006 of the candidates" (p.

85). Despite best efforts, Burnham and his staff were bounded in their ability to craft a clear and

accurate evaluation technology (March, 1978).

Kinkead experienced frustration and confusion as she learned of committee decisions on

a few particular applicants for whom she was able to read applications in full. An admissions

officer and Associate Freshman Dean, Ernest F. Thompson, was sympathetic to her expressed

perplexity. He effectively summarized his own impression of the vague process in which he

annually participated:

> Even after years of experience, you sometimes have the nasty feeling that you cold take
>
> all the thousands of work cards—except those for the five hundred students at the top of
>
> the list and the five hundred at the bottom, whose ratings nobody could honestly
>
> question—and you could throw them down the stairs, pick up any thousand, and produce
>
> as good a class as the one that will come out of the committee meeting. (p. 69)

Of the 4,760 applicants that year, Thompson estimated that 1,000 of the decisions were

straightforward and rationally explicable.[1] That left roughly 3,760 decisions on students that

were just as likely via random chance to fulfill the broadly defined class characteristics the Yale

admissions office was hoping to enroll. Within the garbage can model, the pool of applicants

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[1] The discrepancy between Burnham's calculations and Howe's final tally is due to incomplete, late, or withdrawn applications.

offered 3,760 potential solutions to meet the 1,109 problems facing Yale.[2] Decisions could be

left to random distribution, cast upon a staircase, or solutions and problems could be

opportunistically matched across the stream of committee deliberations.

Elsewhere in Kinkead, Howe provides more perspective on the interplay of problematic

preferences and unclear technologies. He proposes three hypothetical choice scenarios to

Kinkead to describe how he frames his internal debate. First, Howe juxtaposes two students as

"the lad with the high average and the good, sound personality who is going to do well as an

undergraduate but never do very much afterward, or the boy who is a B-minus student in

secondary school but may later catch fire intellectually—though perhaps not till graduate

school—and never stop growing" (p. 26). The second choice set involves choosing between "the

millionaire's son who is rather supercilious now and is only mediocre academically but will one

day fall heir to the means of doing great good for society, or the grade-hound" (p. 26). Finally,

there is "the honor-roll boy who has been 'motivated,' because his parents have been pushing

him since infancy, and who has had good teaching, but whose aptitude tests suggest that his

abilities are only mediocre? He's already reached his academic peak, so in his freshman year

here he would be bound to level out and go down…" (p. 26). These decision scenarios demand

the committee choose between high input metrics versus high output metrics, where output

metrics are nothing more than opinionated guesses. There is no guarantee that the first "lad" will

not amount to much after Yale, and there is no accurate prediction tool suggesting that his

counterpart will "catch fire." Similarly, there is no guarantee that the millionaire will do anything

positive with his fortune, or that the grade-hound will not mature into a genuinely curious

---

[2] Yale admitted 1,609 applicants for the incoming freshman class in the fall of 1961. Taking Thompson's rough estimation that 500 admit decisions were sufficiently straightforward to be made without committee deliberation, the balance of 1,109 remains. In addition, 289 students were strong enough to make a waitlist, in hopes that they might solve an unforeseen problem as other solutions melt away over summer.

scholar. And, perhaps the final honor-roll boy will truly blossom once freed from the relentless drive of his parents. The committee would prefer to execute decisions that unequivocally meet the goals of the university, but the technologies required to do such did not exist—in 1961, or today. Richard Moll, a Yale staff member, effectively summarized the conundrum facing the admissions office: "just as we can't always predict the failures, we can't always predict the geniuses. We can tell what ability-level group is likely to produce a genius, but not which boy in it will have the stability or the itch, the unhappiness or the happiness, or whatever it takes to keep him sweating until he creates something great" (p. 37).

Yale's Fluid Participation, Time, and Energy

Despite Kinkead's success in gaining access to Yale's admissions office, and the forthright nature of her interactions with members of the office, time constraints limited her ability to conduct interviews. Explaining the training process required of new members, indicative of the value of expertise required by the organization to make effective decisions, Howe stated:

> We break in our new people by having them read folders for several solid months. After they've been with us about three years, they get so they can average ten or fifteen an hour. This year, I've given instructions that we must be unusually tough in our ratings, because the competition is stiffer than ever. I'm worried to death for fear we'll be stuck with too many A candidates. It's going to be murder to cut them down. We spend two days before the meeting roughly totaling up what we have. Then the committee always knocks down a few boys and moves up considerably more. And of course, that means even *more* cutting back at the very end. (p. 69)

Kinkead's questioning was cut short because time was so scarce: "He added that no one on the staff could spare the time just then to answer any questions I might have…" (p. 69). The effects of available time devoted to the evaluative task are undeniable. The time required for effective committee deliberations necessitated particularly close attention be paid during application reading; more time and energy had to be expended earlier in the decision making process such that the final decisions making stages could be completed on an actionable timeline.

An Ethnography of the GCM

According to Stevens (2007), information asymmetry between socioeconomic classes creates an inherent advantage in college admissions for those students with greater resources (p. 83). Additionally, those students who have advocates in the process, including "family wealth, trustee connections, official minority status, and athletic skill" (p. 227), are advantaged in the college admissions process. Stevens (2007) describes the admissions office's search for admission students as a "deceptively complex information problem" (p. 76), and the admissions committee, the locus where the actual decision is made, as the instance where "all of the many exigencies that officers are charged with managing get explicitly negotiated" (p. 185).

The reading and rating procedures inform the storytelling process so that the committee can craft its desired class based upon the characteristics embodied by the admitted class (p. 191). The reading and rating process Stevens describes is marked by ambiguity as admissions officers boil down the numerous data points of interest, generating tens of thousands of data points for an applicant pool of such depth. The end result for each applicant is a completed "pink sheet" (p. 196) that "represented virtually every asset of an applicant that mattered to the College. A story could be told about a kid on the basis of the pink sheet alone" (p. 197).

The pink sheet provides a helpful glimpse into what characteristics factor into committee deliberations; "they contained most, but not all, of the information that was the basis for final decisions" (p. 197). Stevens records the following variables included on the pink sheets: grades; class rank; test scores; "fairly detailed information about high school transcripts and extracurricular activities"; parents' educational backgrounds and occupations; number of siblings in college and the names of their schools; race/ethnicity; whether or not financial aid applications have been processed; content and quality of personal essays; summarizations of recommendations letters from teachers and counselors; high school name and percentage of graduates to four-year colleges; athletic ratings; and, legacy status. This list speaks to the unclear technology involved in holistic review when so many qualitative and quantitative aspects are considered for students from such varied backgrounds. It also suggests the breadth of preferences the committee might choose to balance in its deliberations.

The most important numbers on an applicant's pink sheet are the "fin" rating, or *financial aid* score. Fin ratings are the admissions committee's magic numbers (March, 1994), a final average of multiple aspects of each application folder, summaries of the "vital characteristics of applications" (Stevens, 2007, p. 196). The fin rating summarizes the academic and personal performance of each applicant, and is comprised of sub-ratings for the two sides of each applicant. Academic ratings includes estimations for the academic context and performance of each student, including the quality of the applicant's high school, the strength of the student's curriculum, grades, rank in class, and SAT/ACT scores. Personal ratings summarize the extracurricular accomplishments of each applicant (pp. 191-192).

High school quality is "a proxy for a school's academic caliber, on the presumption that the higher the number, the more likely the school was to offer a rigorous college preparatory

curriculum and to have an academically-oriented school culture" (p. 192). It is an imperfect

adaptation to provide evaluative context to the problem of evaluating the performance of

thousands of secondary schools while lacking the time or technology to do so.

Though the academic rating includes a score for class rank, Stevens documents instances

where this statistic is not provided by the student's high school. In such cases, he was forced "to

guess" (p. 195) and create a rating without appropriate contextual information. The unclear

technologies involved in calculating fin ratings becomes more ambiguous as individual actors

guess as to the correct value.

Stevens continues to describe his calculations for this particular student's personal rating,

one whom he had met while traveling on behalf of the college. Stevens admits that he

"overestimated" this rating, his evaluation biased by "memories of the nice counselor and the

nice campus under the trees" (p. 196). His decision-making was cognitively biased in favor of

this applicant relative to the applicant pool for entirely irrelevant reasons. If allowed to stand,

this commitment to action by the organizational, wholly unprogrammable, would be nearly

impossible to predict.

Stevens includes an insightful quote from Susan Latterly, the administrative director of

the admissions office under study, describing the final review in crafting the class. She says,

"…what you have to do is go back through and visit the kids getting aid and see who we need to

let go…And then after that we spend some time going over the admits trying to make sure that

we have enough singers and enough athletes and enough whatevers, talking to the coaches and

seeing what we've done with them—just really checking to make sure we've covered what we

want" (pp. 223-224). In her statement, we see that student characteristics are thought of as

solutions to the college's problems—what the college wants in the incoming class, the competing

priorities it strives to balance in each group of firstyear students. She describes a fluid decision-making scenario in which the status of prior decisions are in flux, dependent upon how well solutions have been matched to problems. Decisions may change if too many solutions have been identified and admitted to meet a particular demand; conversely, certain students previously deemed undeserving of an admit may find themselves in the class when the committee realized their oversight.

Perhaps the most striking decision-making observed by Stevens were those decisions to admit based upon the "Rule of One Pick." Comparable to the wild card model as identified by Rigol (2003), this rule "entitled each of them [admissions officers] to choose a single candidate for admission entirely at their own discretion" (Stevens, 2007, p. 225). Each committee member, including the most junior and inexperienced novices, was empowered to make one decision on behalf of the entire organization with complete independence. Stevens argues the rule was special because it "momentarily suspended all of the exigencies that otherwise constrained officers' discretion" (p. 227). It is perhaps more interesting to consider the rule from an organizational perspective, however, and consider the ambiguity introduced into the decision-making process. In each admitted class, some small percentage of students will have been admitted (and, in some cases, funded) solely by one individual's discretion. The reason(s) compelling the organization's commitment to action in these instances may vary wildly according to the motivations or personal goals and priorities of each individual officer. Moreover, the rule of one pick can be interpreted as an organizational adaptation to reconcile potential conflicts between the competing preferences (goals) of decision-makers and their organizations (March 1994). It is perhaps a conciliatory gesture, a result of negotiating power

between admission officers as a reward for suffering through the struggles of rejection in the highly selective environment.

Research Design

This case study will explore how the garbage can model of decision-making might explain the admissions decision-making process at a private, selective liberal arts college. It will also consider how alternative theories, including political power, resource dependence, and bureaucratic rational theory, might explain decision-making in this situation. Using a theory such as GCM allows me to build testable propositions that may be confirmed or negated during research, and it is more appropriate to use theory to inform the research design of a case study than other qualitative methods of inquiry (Yin, 2014). The GCM offers the most promise to explain how admissions decisions are made because it best accounts for the ambiguous nature of the exercise.

A qualitative case study is best suited to answer my research questions given the "countless multiple causes" (Stake, 2010) that bear upon decisions to admit or deny students. Just as admissions offices frequently describe the holistic nature of their decisions, qualitative studies concentrate on the complete holistic experience of the phenomena under study (Silverman, 2013; Stake, 2010). A case study is superior to quantitative studies that cannot account for the holism of selective admissions decision-making. Furthermore, the qualitative approach will allow observation of the "wide sweep of contexts" influencing decisions at the committee table: "temporal and spatial, historical, political, economic, cultural, social, personal" (Stake, 2010, p. 31).

This case study primarily employs participant interviews and observations of the decision-making process. Multiple methods will allow for triangulation, lending greater validity

and reliability to my findings (Miles, Huberman, & Saldana, 2014; Silverman, 2013; Yin, 2014).

Case studies allow researchers to study the *how* and *why* questions to which we seek answers,

and are most appropriate to study current, modern (in the present) questions (Yin, 2014).

Histories refer back to events of the past and rely on artifacts, documents, and perhaps the

recollections of participants. A historical study of the decision-making process does not allow for

observation at the moment or locus of decision, and may be biased by the ability of participants

to accurately recollect events in full. Conversely, I do not wish to explore the experience of the

participants such as might be appropriate for an ethnography or phenomenological study, well-

executed as documented in past literature. A survey might capture attitudes and sentiments about

the process, or similarly capture established rules or expressed goals intended by the admissions

decision-making process, but these fail to account for the context of the decision. This study

seeks to answer primarily *how* decisions occur within the moment—what justifications,

motivations, and factors both internal and external factor into the decision, relative to the

institutionally specific problems they might address—which in turn explains the *why* of the

decision. In particular, the research question guiding the design of this study is stated as:

> To what extent does the garbage can theory of organizational choice explain the
>
> admissions decision-making process at private, selective liberal arts colleges?

Two recent qualitative studies of the admissions process help frame the proposed

research design. Bowman and Bastedo (2016) conducted a compelling qualitative experiment

that required 300 admissions professionals to read and evaluate three college applications that

were created for purposes of the study. Their findings conclude that admissions professionals

might allow personal biases to influence their decision-making; at the same time, the authors

acknowledge that their results would likely vary if the same experiment were conducted within

the context of the professionals' respective institutions. The context—the bounded-ness and attention to mission goals, institutional needs and subsequent constraints—was completely absent from this study. The authors may have addressed which factors were considered relative to others across three applicants, but they did not create a real-world experiment. This proposed case study at hand, in the specific context of an institution, allows for that context which is critical to understanding the *how* and *why* sought after by qualitative researchers.

In his thorough, extended ethnography, Stevens (2007) embeds as a participant-observer in a small, private, selective liberal arts institution deemed "the College." His research is, arguably, near impeccable for its thoroughness and thick, rich description of scene and participants. He commendably answers *how* the college application, review, and evaluation processes occur. However, his research agenda or theory use directed him to look for systematic information asymmetries and unequal access, away from *how* decisions occurred—he was looking for *what* factors expressed primacy throughout the process, and *what* impact these student characteristics might have played upon the process as a whole. The research design of my proposed case study allows for examination of the moment of decision on individual applications: *how* the decision, a commitment to action, occurs, as opposed to *how the process occurs and unfolds*.

A second note on Stevens (2007) deserves brief attention. He justifies his study, in part, by critiquing quantitative experiments that attempt to identify the factors evaluated by admissions officers in making decisions. As he points out, such studies lack the granularity of the decision, and fail to account fully for the holistic, and justifiably subjective, components of individual decisions. The role of individual judgment and the impact of subjective evaluation are critical in components of decisions, as suggested by Stevens and informed by my professional

experiences. The case study at hand, while lacking statistical generalizability (as will all or most

qualitative studies) favored by quantitative researchers, will demonstrate analytical

generalizability in its theory building of the GCM and in cases that are similarly selected.

Conducting research at multiple sites undeniably increases validity and expands the

generalizability of findings (Miles & Huberman, 1994). However, my own time and resources

bound my ability to sample more broadly. Though they may differ in terminology, qualitative

methodologists encourage single site case studies that are purposefully identified. Silverman

(2013) emphasizes the value of a single case's representativeness when purposefully identified

on logical grounds. Merriam (2009) insists that "much can be learned from one case" (p. 51).

Merriam says, "Purposeful sampling is based on the assumption that the investigator wants to

discover, understand, and gain insight and therefore must select a sample from which the most

can be learned" (p. 77). Going further, Merriam (2009) invokes the argument of Erickson (1986),

saying, "since the general lies in the particular, what we learn in a particular case can be

transferred to similar situations" (Merriam, 2009, p. 51). Yin (2014) offers five rationales that

may justify single-cite case studies; of these, one is immediately relevant to this study. The site

will be chosen *critically* based upon the tenets of the GCM. Only within the context of selective

admissions environments does the conceptual framework of the GCM offer an explanation. In

this regard, "the single case can represent a significant contribution to knowledge and theory

building by confirming, challenging, or extending the theory" (Yin, 2014, p. 51).

Once the specific case selection has been identified, the unit of analysis will be the

admissions committee. These members of the admissions office are present for, and play an

immediate and direct role in, the moment of decision. Again, this case study is interested in the

decision itself, where decision is understood to be a commitment to action. Actively moving to

admit a particular student is a commitment to extend an offer of admission and welcome her into

the community—including all of her characteristics, both easily measurable and identifiable or

otherwise. While the organizational actors on the periphery (outside of the committee room) are

vital contributors to the daily operations of an office, and likely contribute to how an applicant

pool takes shape given their interactions with the public (potential students and families) and

their efficiency in conducting business (the standard operating procedures and elements of

bureaucracy), they are not present for and do not make evaluative or immediate contributions in

the locus of decision. They may speak to the application, review, and evaluation process itself, as

captured by Stevens (2007), but the research question this case study addresses is in each

particular commitment to action. These peripheral actors would not be present for the decision to

commit to an admission offer.

Accordingly, the foremost and primary participants identified for interviews will be

members of the admissions committee. Interviews will be conducted both prior to and following

committee. Semi-structured interviews that allow for participants to speak to the moments of

decisions themselves, their relationship and involvement in the decision-making process, and

their understanding of the factors involved in the decision, will be broadly prepared in advance.

Initial interviews will be arranged only with identified members of the committee. Interviews

with these external actors will be conducted should members indicate that employees from other

units within the institution are invited to the committee table.

I have spent considerable time deliberating how to appropriately bound this case study, in

particular regarding the selection of participants. Undeniably, there are issues both internal and

external to the admissions committee that bear upon them. Stakeholders in the decision include

trustees, presidents, faculty members, coaches, deans of students or diversity, donors both

speculative and proven, families with prior relationships to the college, and the students themselves. While these stakeholders present different pressures and potential conflicts to the committee members, and attempt, hope to attempt, or even succeed at exerting influence or pressure upon the committee, fundamentally they are absent from the locus of decision. Committee members responsible for representing these various stakeholders can recount the machinations and deliberations of the committee to appease their 'constituents' as they seem fit, assuaging them that their interests were well represented. However, what happens in the back of the stage may be very different from what happens on the front of stage. Unless these stakeholders are present at the *moment of decision*, they cannot accurately speak to that moment—they can only speculate as to the process and how policy might inform the process.

This case study includes observations of committee decision-making to account for precisely this variable. I believe that astute observations will reveal these competing interests playing out at the committee table, as represented by those committee members charged with representing the varied interests. Different stakeholder interests may win out at different times in committee decisions, but how these interests compete with one another, gain prominence and ultimately attach themselves to particular applicants, describes *how* and *why* the decision was achieved.

Subsequent, follow-up semi-structured interviews will ask participants to reflect on what occurred during decisions, and may include specific reflection upon individual application decisions observed in committee. I want to not only explore their understanding of decision moments themselves, but also to check their post-committee responses against pre-committee responses. I wish to capture participant understanding of decisions that went contrary to their

expectations of the process, after the commitment to action and following the deliberations surrounding the shaping of the class.

This case study may call upon document analysis should relevant resources exist within the admissions office under study. In particular, I am interested to know to what extent decisions may be framed within the context of the college's mission statement (assuming the admissions committee takes charge from this statement), and perhaps more importantly, if there are specific rules or guidelines set forth by leadership. Such documents might suggest a prioritization to the competing goals of the college or the preferences of sub-units within the institution. Goals might align with, and are not limited to, the interests of the stakeholders mentioned earlier, including fiduciary concerns, donative potential, prestige/merit profile, service to diversity, academic interests, and non-cognitive talents including art, music, and athletics. Documents informing the reading and evaluative process may include such direction, and will be analyzed accordingly. However, this study does not seek to explain the standard operating procedures established to accomplish the bureaucratic task at hand, so well captured in numerous places elsewhere.

Construct validity is gained in this case study given the multiple sources of evidence gathered via interviews and observations, and document analysis where appropriate and relevant. Using multiple sources allows for triangulation between the evidence itself as well as ensuring a more comprehensive and thorough capture and validation of what I hear, witness, and record. Additionally, calling upon key informants (participants) to review interview transcripts, field notes, and researcher interpretation will lend increased construct validity.

Appropriate and thorough analysis of my data begins with pattern matching given my *a priori* propositions of the GCM, including evidence of problematic preferences, unclear technologies, fluid participation, and the attachment of solutions to problems. Interviews will be

transcribed in full and coded, likely using NVivo software. Simultaneously, rival explanations in the competing models of political power, resource dependency, and bureaucratic rational theories will be coded as detected within the transcripts, notes, and documents. Yin suggests a logic model as an additional means to improve internal validity, and this may provide a useful resource to diagram different decisions in the moments when solutions attach to problems and become commitments to action. Though constant comparative analysis techniques are more commonly associated with constructivist research, it strikes me as a critical relative in this case study, in as much as I will be constantly checking data against the GCM and rival theories during pattern matching.

External validity will be accomplished though the use of theory. Again, statistical generalizability remains the goal of quantitative research. Analytical generalizability, which provides external validity, is the goal of qualitative research. Successful application of, modification, refinement or contribution to a theory, provides external validity in this instance, when the GCM may be applied in similarly situated case studies.

Finally, this case study seeks reliability via two means. First, I will establish and adhere to a study protocol. Personal reflections and decisions as the case study develops will be recorded, as all case studies are likely to evolve once they begin. Second, a study database including all of the data gathered via interviews, observations, and documents, will be maintained. Reliability is not replicability, but with a protocol in place and a comprehensive database, future researchers would be able to arrive at the same conclusions met in this study, and understand logically how the conclusions were drawn.

This research design is informed largely by Posselt's (2014, 2016) work on the decision-making process at the graduate program level. A few internal debates have arisen as I prepare for

this case study: how to gain access, and how to account for my own personal biases given my previous experience as an admissions practitioner. She was kind enough to entertain a phone call from me last summer to help me think through these issues, and I think her thoughts on this proposed case study deserve recognition in closing. In regards to access, a promise and preservation of anonymity of site and person will be an important hurdle, but doing so allows access into the debate surrounding decisions, which is so critical to observe. At the same time, I want to express that this case study is not intended to explain how particular student profiles are treated in the admission process; this is not a tell-all recasting of what happens behind the scenes. I do not have a political or social agenda compelling this research, and I do not intend to 'call out' individual student cases I might observe that could be suggestive of findings relevant literature. Rather, my intent for this case study is to test a theory that seeks to account for ambiguousness in a world of bounded rationality. It is my personal professional experience that there simply is too much to know about an entire applicant pool, let alone any one applicant. It is my stance that with adherence to institutional mission and in concert with the financial constraints of each institution's resources, decision-makers can arrive at the best decisions possible, *in the context of their institutionally-specific parameters*, given their limited search abilities within a given applicant pool.

Case Selection

There are 1,271 private, nonprofit, four-year institutions of higher education in the U.S. included in the National Center for Education Statistics dataset. Of this population, approximately 19% reported admitting fewer than 50% of applicants in 2014-2015. My case will emerge from among this field. My research question further narrows the potential cases to those identified as liberal arts colleges. Thus, I will refer to the 250 institutions classified as such in the

2015 Carnegie Classifications as published in the period updates. These schools issue more than

50% of their degrees in the liberal arts (as opposed to professional fields), and have limited

graduate degree programs, if any.

From this population, my research into case selection will begin by defining selectivity

more specifically, and gathering data to identify selective institutions that will allow me to

discern between varying levels of selectivity.

Researchers have generally arrived at a common definition of selectivity. Killgore (2009)

defines her population of elite institutions as selective because "only those colleges that receive

more applications than they can accept have the luxury of choosing some student characteristics

over others" (footnote on p. 469). She sampled from institutions listed in the most selective

category and appearing in each of *Peterson's Guide to Four Year Colleges, Barron's Guide to

the Most Competitive Colleges*, and the annual *U.S. News & World Report* (p. 474). In their

research on college undermatch and the methodological shortcomings to properly account for the

ambiguity of holistic admissions, or as they term it, "the messy sorting process," Bastedo and

Flaster (2014) use those colleges listed in the "most competitive" category in *Barron's Profiles

of American Colleges*. Though certainly more memoir than empirical research, Fetter (1997)

speculates that her experiences as an admissions dean at Stanford University would characterize

the admissions processes at institutions selecting thirty percent of applicants or fewer.

The most important component of the case selection methodology will be the prevalence

of *alternate* solutions available to decision-makers, wherein *solutions* are represented in the

characteristics embodied by each individual applicant. I expect the case will emerge from the

likes of Barron's *most competitive* or *highly competitive* ranks, similarly identified among the top

50 or so national liberal arts colleges as ranked by *U.S. News & World Report*. Appendix III

contains a sample of potential research sites sorted by decreasing admit rate, drawn from the initial NCES list above.

The second component of my case selection considers institutional wealth as reflected in endowment level and financial aid practices. Incorporating reported endowment levels as captured in annual NACUBO responses adds a resource dimension: as endowments increase, responsiveness to tuition revenue needs likely decreases as endowment drawdowns or returns comprise greater proportions of institutional operating budgets. Second, financial aid policies reflect the varying levels of institutional reliance upon tuition revenue. Institutions that admit students via a need-blind financial aid policy do not need to factor institutional financial aid budgets into their decisions. In the GCM, need-blind institutions theoretically have fewer problems to address, in that decision-makers do not have to factor projected tuition revenue into considerations. Institutions that admit students via need-aware or need-sensitive financial aid policies, however, must be responsive to estimated family contributions and the impact that admitted and enrolling students may have upon aid budgets. Mapping onto the GCM theory, we see that financial aid budgets serve to bound decision-makers in terms of matching solutions to problems. We also observe a corollary proposition: full-pay or no-demonstrated-need applicants present themselves as solutions to budget demands, providing much-need tuition dollars upon which the institution is dependent. Thus, I am inclined to select a need-sensitive institution over a need-blind one because of the additional variables.

The third component of case selection will consider the presence of a school-sponsored intercollegiate varsity athletic program within the NCAA Division III (D3). The rationale here is two-fold. First, an institution with an athletics program will have coaches, and these coaches are likely actively recruiting prospective student-athletes to the school. They have an active interest

in the shaping of the applicant and admitted student pools; clearly they should hope that their

interests are well represented in both, and that their interest in particular applicants is

appropriately represented at the committee table, in the moment of decision. Similarly, the

organization as an institution holds a specific commitment to both its conference and D3 to field

a given number of teams with adequate roster sizes. Furthermore, the institution likely has an

interest in the success of these teams, and indeed, we see that athletic ability may factor into the

admissions process, if not playing an arguably undue role (Stevens 2007). In sum, an athletics

program introduces another measurable variable; mapping onto the GCM, it introduces

additional problems that must be addressed by the committee. Second, I prefer to find a

participating member of the NCAA D3 because of the prohibition of athletic scholarships at this

level. Some liberal arts colleges are members of NCAA Division I or II, where scholarships are

awarded to student-athletes. In these other divisions, coaches may have the right to extend offers

of admission embodied in the form of athletic scholarships (assuming minimum eligibility

criteria have been met). And, in this regard, the commitment to action (the offer of admission)

has been removed from the domain of the admissions committee—the locus of decision occurred

in the athletic association or athletic department. Conversely, D3 institutions are likely to have

maintained the decision-making authority within the admissions office. The potential sites listed

in Appendix III are members of the NCAA, though for the purposes of selection, I have left

those that are members of Division I for the time being.

Particular sub-populations of liberal arts colleges that would introduce additional

variables are the handful of publics, or those with specific missions. It is possible that selective

public liberal arts colleges are subject to restrictions on the proportion of out-of-state residents

they enroll, complicating and likely narrowing the search for solutions. Similarly, institutions with special missions are less likely to admit students with misaligned characteristics.

Another sub-population worthy of exploration are those colleges that have moved away from standardized testing and announced test-optional policies. At this time, I will retain test-optional schools in the population under consideration because the absence of another data point (standardized tests) contributes is likely to add to the murkiness of technologies at play in the GCM. Test-optional schools are likely to have observed increases in application numbers, as well, and thus might provide richer environments to study, where more solutions are available to decision-makers. A future endeavor might set up a multi-site case study between test-optional and test-required institutions to study the variation between the two.

Timeline

The admissions reading season is in full swing through early March, at which point committee deliberations will begin. Most institutions will release decisions before April 1 at the very latest. I plan to begin contacting potential research sites in April and May 2017. I will work for IRB approval in early summer 2017. Pre-committee interviews will be scheduled in fall 2017. Committee observations will occur in late winter 2018, followed by post-committee interviews shortly thereafter.

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Appendix I

Qualitative Degrees of Freedom: An Ambiguity Scale for Understanding Admissions Decisions

No Ambiguity ←—————————————→ **Greater Ambiguity**

| Highly Selective |
| Very Selective |
| Moderately Selective |
| No or Low Selectivity |

Philosophical Justifications for Admissions Decisions (Perfetto & College Board 1999)			
Pure Eligibity	Capacity to Perform	Capacity to Benefit	Potential to Contribute
Eligibility Open Access	Meritocracy Character	Enhancement Mobilization	Investment Environmental : Institutional Fiduciary
	Emphasis on each type of information considered.		
	How desired attributes are measured, evaluated, and validated.		

Common Models to Select Freshman Class (Rigol 2003)	
	Multiple Readers Committee
	Team Readings to Decision or Further Review (sub-committee)
Single Reader to Decision or Further Review Reader(s) to Computer for Decision or Further Review Computer to Committee for Decision Computer Plus Committee for Decision	
Computer to Decision or Further Review	

Adapted from Weick & Daft (1983)			
Constraint: Traditional Boundary Interpretation; Limited Search and Draw; Being Acted Upon by External Entities Organizational Coercion: Definition by environment Passive Test-avoiding	←————————————→		Freedom: Unlimited, unbounded search; Freedom to experiment; Ability to construct a market Environmental Coercion: Definition by organization Active Test-making
Staring	*Glancing*	*Discovering*	*Enacting*

Slack
(Simon 1977; Perrow 1986)

Environmental Freedom / Independence
(Baldridge 1983)

←————————   ————————→

Exploitation ←——————————————————→ *Exploration*

March (1991)

Appendix II

Selectivity Scales of Process, Environmental Interaction, & Decision-Making

	Open Access	Low Selectivity (admit rate 100-85%)	Moderately Selective (admit rate 85-50%)	Very Selective (admit rate 50 - 33%)	Highly Selective (admit rate below 33%)
Ability to craft alternative tests	None	Very low	Low	High	Very high
Ability to explore and seek alternative solutions	None	Very low	Low	Medium	High
Adaptability	None	Very low	Low	High	Very high
Ambiguity surrounding admissions process beyond coarse sorts	None	Very low	Low	High	Very high
Attention to efficiency?	Very high	Very high	High	Medium	Low
Autonomy to make decisions freely	None	Very low	Low	Medium	High
Capture/Boundedness by environment	Very high	Very high	Medium	Low	Very low
Deliberate pursuit of a goal?	None	Very low	Low	High	Very high
Environmental Freedom / Independence	None	Very low	Low	High	Very high
Everything is functional	Very high	High	Medium	Low	Very low
Exploitation of Resources	Very high	Very high	Medium	Low	Very low
Extent of holistic application review	None	Very low	Medium	High	Very high
Internal Slack	Low	Very low	Low	High	Very high
Predictability of admissions decisions (outcomes) beyond coarse sorts	Very high	Very high	Medium	Low	Very low
Professionalization of admissions staff	Low	Low	Medium	High	Very high
Range of discretion in decision	None	Very low	Low	Medium	High
Spontaneity	None	Very low	Low	High	Very high
Subject to isomorphic forces	None	Very high	High	Medium	Low
Use of automated evaluation process	Very high	Very high	Medium	Low	Very low

Data Supporting Case Identification & Case Selection

Appendix III

UNITID	NAME	USNWR 2017	Barron's 2017 Selectivity Rating	IPEDS Yr 2014 Applicants	IPEDS Yr 2014 Admits	IPEDS Yr 2014 Enrolls	IPEDS Yr 2014 Admit Rate	IPEDS Yr 2014 Yield Rate	IPEDS Yr 2014 Draw Rate (Yield/Admit)	Endow/FTE	Endow/FTE Rank	FYE1314 Endowment Assets
112260	Claremont McKenna College	9	MC	6043	651	327	10.8%	50.2%	4.66	529,117	12	699,493,000
121345	Pomona College	7	MC	7727	942	450	12.2%	47.8%	3.92	1,279,818	2	2,101,461,000
121257	Pitzer College	32	MC	4324	563	260	13.0%	46.2%	3.55	128,292	68	134,877,145
164465	Amherst College	2	MC	8477	1173	469	13.8%	40.0%	2.89	1,199,332	4	2,149,202,662
115409	Harvey Mudd College	21	MC	3678	524	195	14.2%	37.2%	2.61	353,442	23	283,696,431
161004	Bowdoin College	6	MC	6935	1034	503	14.9%	48.6%	3.26	674,448	9	1,216,030,000
216287	Swarthmore College	4	MC	5540	943	407	17.0%	43.2%	2.54	1,221,260	3	1,876,669,000
230959	Middlebury College	4	MC	8195	1407	580	17.2%	41.2%	2.40	431,779	14	1,081,893,682
126678	Colorado College	24	MC	7602	1361	549	17.9%	40.3%	2.25	330,850	27	680,337,000
168342	Williams College	1	MC	6316	1220	546	19.3%	44.8%	2.32	1,020,225	6	2,143,152,951
234207	Washington and Lee University	11	MC	5837	1136	471	19.5%	41.5%	2.13	654,334	10	1,477,923,000
198385	Davidson College	9	MC	5560	1205	502	21.7%	41.7%	1.92	366,056	21	647,919,787
173258	Carleton College	7	MC	6297	1434	521	22.8%	36.3%	1.60	387,016	18	792,737,205
197133	Vassar College	12	MC	7784	1832	665	23.5%	36.3%	1.54	406,982	16	974,179,926
130697	Wesleyan University	21	MC	9390	2245	750	23.9%	33.4%	1.40	252,440	32	793,334,000
212911	Haverford College	12	MC	3496	863	338	24.7%	39.2%	1.59	412,122	15	490,699,895
203535	Kenyon College	27	MC	6635	1663	450	25.1%	27.1%	1.08	128,271	69	212,159,850
160977	Bates College	27	MC	5044	1282	491	25.4%	38.3%	1.51	148,839	55	263,892,125
190099	Colgate University	12	MC	8717	2287	767	26.2%	33.5%	1.28	301,211	28	865,882,401
191515	Hamilton College	12	MC	5071	1336	469	26.3%	35.1%	1.33	488,855	13	927,520,000
153384	Grinnell College	19	HC	6058	1697	435	28.0%	25.6%	0.92	1,080,851	5	1,829,521,000
161086	Colby College	12	MC	5148	1444	480	28.0%	33.2%	1.19	400,991	17	740,631,000
213385	Lafayette College	36	MC	7796	2319	648	29.7%	27.9%	0.94	337,855	26	832,811,462
211291	Bucknell University	32	MC	7864	2416	939	30.7%	38.9%	1.27	208,858	39	750,913,000
233374	University of Richmond	27	MC	9921	3155	817	31.8%	25.9%	0.81	614,805	11	2,313,305,000
204501	Oberlin College	24	MC	7227	2365	797	32.7%	33.7%	1.03	293,774	29	866,829,551
130590	Trinity College	38	HC+	7507	2480	611	33.0%	24.6%	0.75	242,158	34	551,798,198

Source: IPEDs, U.S. News & World Report, Barron's Profiles of American Colleges, NACUBO