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Abstract: Privileging elite academic pedigrees in graduate admissions preserves racial and socioeconomic inequities that many institutions say they wish to reduce. To understand this preference, I integrate across perspectives on trust in rational choice, social capital, and social network theories, and use the resulting framework to interpret 68 interviews with faculty reflecting on graduate admissions. Individual and institutional trust networks enable faculty to invest in students' uncertain futures, with trust especially important for interpretations of transcripts and letters of recommendation. I discuss trust networks' consequences for admissions, how they can be expanded, and their relevance for future higher education research.

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Professors' judgment is a factor in academic gatekeeping throughout academe, from peer review, to the awarding of fellowships, to the hiring of staff, administrators, and fellow faculty (Lamont, 2009; Twombly, 1992; Van den besselaar & Sanström, 2015). Among the contexts in which professors' judgment shapes access to and promotion within academe, doctoral admissions has largely escaped scholars' attention (Campbell, 2009; Rogers & Molina, 2006). However, studies over the last three decades have consistently found a positive relationship between college selectivity (or prestige) and admission to graduate school (Attiyeh & Attiyeh, 1997; Lang, 1987; Zhang, 2005). This paper's goal is to examine how and why this relationship exists.

The current tendency to privilege elite academic pedigrees in graduate admissions preserves racial and socioeconomic inequities in graduate education—inequities that many colleges and universities say they wish to reduce. American colleges and universities are stratified by admissions selectivity (Bastedo & Gumport, 2003), and although 90% of high school graduates who score in the top 50% of the SAT/ACT score distribution go on to some postsecondary education, college students of color are concentrated in less selective institutions, from which fewer students go on to graduate study (Carnevale & Strohl, 2013; Posselt, Jaquette, Bastedo, & Bielby, 2012). Specifically, whereas 16% of Asian American and 7% of white high school graduates in 2004 enrolled in the most selective institutions, just 2–3% of African American and Latino students did (Posselt, Jaquette, Bastedo, & Bielby, 2012). Carnevale and Strohl (2013) argued that white students ultimately maintain higher graduate school enrollment because they tend to enroll in more prestigious undergraduate institutions. A narrow view of college quality when evaluating graduate school applicants is therefore one way that inequities are reproduced in U.S. graduate education (Garces, 2014; Gopaul, 2015; Margolis & Romero, 1998). To broaden participation will require a broader perspective on college quality, and encouraging this broader perspective starts with understanding how judgments of pedigree are currently formed.

Current Perspectives on Pedigree in Elite Selection

Research on graduate admissions in the United States began in the mid-20th century as professors and institutional researchers assessed whether college grades and scores from the Graduate Record Exam (GRE) could reliably predict student success in graduate school (Borg, 1963; Cureton, Cureton, & Bishop, 1949; Lannholm, 1968; Newman, 1968). Scholars have come to mixed conclusions, but findings tend to show that the GRE's predictive validity is strongest for first-year grades and weaker for the longer-term measures of success (Kuncel, 2007; Marston, 1971). This pattern is partly due

to a concentration of applicants in the right tail of the distributions of both GRE scores and grades, which both attenuates correlation coefficients with graduate school outcomes and complicates professors' ability to use these criteria to distinguish among applicants (Klitgaard, 1985; Posselt, 2014).

Signaling theory asserts that in such a situation, the credentials in question will weaken as marks of distinction. Under conditions of predictive uncertainty, the value of a credential is inversely proportionate to its availability in the market (Spence, 1973). In this case, it is understandable that reviewers would turn to other criteria when 1) many people obtain high grades and GRE scores and 2) those measures' relationships with long-term measures of success are debated. Signaling theory also explains why faculty would turn in particular to judgments of college pedigree, because market uncertainty often drives up the quality attributed to elite organizations (Podolny, 1994, Spence, 1973). "Status serves as an informational cue that can be used to differentiate a focus set of actors when underlying quality differences are not transparent" (Sauder, Lynn, & Podolny, 2012, p. 14.6). Factoring college prestige into their evaluations may help faculty feel they are capturing greater variance in applicant quality than they can discern from GRE scores and grades alone. However, signaling theory does not explain why, among the universe of possible alternative criteria, status so often becomes the "informational cue" of choice. Further, it overlooks social psychological processes by which judgments of institutional reputation are formed (Bitekine, 2011). Other mechanisms are needed to help explain the enduring power of status to guide judgment.

One such mechanism in doctoral admissions is elite homophily, or a preference for self-similarity among elites (Posselt, 2016). Present not only in admissions, elite homophily has also been the focus of other recent sociocultural analyses of elite selection. Rivera (2015) evocatively described the "golden pipeline" from a very small handful of Ivy League universities into entry-level jobs in investment firms, noting how hiring for such positions is effectively a process of cultural matching. Bourdieu's (1977, 1986) theory of social reproduction offers a related perspective. He identified a homology between the patterns of privilege that promote ascension through the French educational system and the patterns of privilege that reproduce social stratification, broadly. From his perspective, professors in elite educational programs narrowly define which affiliations, relationships, and degrees should count as valued social capital and institutionalized cultural capital; they do so in order to limit mobility, reinforce their own continued elite status, and uphold cultural qualities of the academy.

However, homophily and social reproduction cannot explain evidence in the broader study on which this paper is based that faculty from even modest backgrounds easily fall back on institutional prestige in doctoral admissions

review (Posselt, 2014, 2016). In that study, "incomplete information" about applicants and their futures was the most frequent response to an interview question posed to 68 professors: "What makes graduate admissions decisions difficult?" Building from this finding and the insights of signaling theory, elite homophily, and social reproduction, I explored trust as a sociocognitive mechanism of professional judgment.

How Might Trust Shape Admissions Decision Making?

Mechanisms are causal patterns, often rooted in purposive action (Hedstrom & Swedberg, 1998; Tilly, 2005b), that provide narratives for observed correlations (Elster, 2007). Several areas of recent social science research suggest that trust is an important mechanism, affecting social relationships in predictable ways across a variety of professional contexts (Putnam, 1995; Zak, 2008). Here, I present three of the most prevalent perspectives on trust in social research—rational choice, social capital, and social networks— and how they can inform our understanding of how professors judge quality. Then, I offer a conceptual framework that relates these perspectives to one another and to current findings about admissions.

Trust in rational choice theory. Trust can be thought of as a combination of emotion, calculation, and action. Rational choice theorists assume agents make decisions primarily to maximize utility, and they have defined trust as an expectation that others will take actions that serve their own self-interest (Kohn, 2008). To trust, they say, is to place the accomplishment of one's self-interest in someone else's hands. From this angle, trust involves a willingness to assume risk and to open oneself to the possibility of gain as well as loss (Kohn, 2008). Within relationships, a recursive cycle of trust reduces perceptions of uncertainty and risk. Over time, as an individual or organization proves trustworthy, the choice to trust again seems more rational and to involve less risk. In effect, trust is both *earned* (by the person or institution in whom trust is placed) and *learned* (by the person who is placing their trust).

Trust in social capital theory. Trust also occupies a central place in theories of social capital, defined as "possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu, 1986, p. 248). To Bourdieu, investment in relationships both provided access to and represented indirect investment in, the resources (i.e., capital) of the network (Bourdieu, 1977, 1986). Coleman (1988) emphasized the value of social capital inherent "in the *structure* of relations between actors and among actors" (p. 598)—a structure that consists of norms, expectations, and information channels.

Subsequently, Putnam (1995) and Fukuyama (1995) named trust as one such norm and expectation. Contrasting with a perspective of trust as rooted in self-interest, the social capital perspective posits that relationships estab-

lished according to shared values and interests are more effective because their transaction costs are lower and "prior moral consensus gives members of the group a basis for moral trust" (Fukuyama, 1995, p. 26). By foregrounding "norms of reciprocity and trustworthiness that arise" from social networks (Fukuyama, 1995, p. 19), social capital becomes a group capability that enables collective advancement and legitimacy, not only a resource by which individuals maximize opportunities and self-interest.

Trust networks. Rational choice and social capital perspectives are both represented in theories of trust networks, defined by Tilly (2005a) as "ramified interpersonal connections, consisting mainly of strong ties, within which people set valued, consequential, long term resources and enterprises at risk to the malfeasance, mistakes, or failures of others" (p. 12). Conformity with a network's prevailing norms can be interpreted as social control, but loyal participation in networks such as religious groups, agricultural cooperatives, and mutual aid societies confers real rewards (Tilly, 2005a). Trust networks that enforce clear boundaries are more effective than those with weak or diffuse boundaries (Buskins, 2002; Tilly, 2004), and careful, ongoing recruitment and integration of new members is necessary for organizational survival beyond a single generation (Tilly, 2005a).

A network can be analyzed as a function of how its relationships are distributed and embedded or in terms of the common enterprise that holds it together. In academia, the enterprise is often intellectual. According to Randall Collins, "Networks are actors on the stage of intellectual history. The contents of intellectual creativity are constructed out of interactions in social networks" (Collins, 2010, n.p.) that contest, negotiate, and refine what is known. This enterprise depends on trusting relationships, the trustworthy judgment of one's colleagues, and trust in the legitimacy of peers' scholarship and of research and peer review processes generally. Trust is therefore weaved throughout the fabric of academic life and contributes to the continuation of academic organizations.

Academic networks produce inequality. Academic hiring and admissions are two processes by which decision makers rely upon existing networks of trust to integrate new members. However, two important studies have also lent insight into specific processes by which social networks can reproduce inequality in higher education. Through qualitative research, Danowitz Sagaria (2002) analyzed efforts by academic decision-makers to minimize the risks associated with hiring new leaders. The latter stages of decision-making emphasized considerations of applicants' conformity, or "fit," with the organization. As a criterion to fulfill, fit signaled institutional compatibility and a low risk of challenging the status quo. Fit was also a means by which shared networks affected the application information that decision makers deemed legitimate. "Search chairs were reluctant to accept information as

factual and complete unless they knew the reference or informant. By privileging information from known sources, search committees effectively limit the range of information they were willing to consider" (Danowitz Sagaria, 2002, p. 689). Shared networks thus promote trust and the appearance of fit, whereas segregated networks present barriers to trustworthiness and, as a result, encourage homosocial reproduction. From this perspective, the combination of women and people of color being *over*represented in less selective colleges and universities and *under*represented in elite institutions creates segregated academic networks, which may subtly stratify who is deemed trustworthy in graduate admissions.

A second study, focused on the production and hiring of sociologists, is Burris's (2004) multi-method analysis of prestige hierarchies in Ph.D. exchange networks. Burris observed that sociology departments considered it acceptable to place their Ph.D.'s into jobs in lower-ranked programs, even while striving to recruit faculty from departments that were at least as prestigious as their own. One-third of the professors hired into 94 sociology departments earned their Ph.D.'s in the top 5 ranked departments, and graduates of the top 20 departments took about 70% of the total faculty positions. Through the number and pattern of institutional relationships that departments create by exchanging their Ph.D.'s, they create field-specific social capital and reinscribe departmental status. A similar pattern may apply in graduate admissions: Departments may be willing to send their own undergraduates to lower-ranked doctoral programs but admit graduate students mainly from peer programs and those that are at least as prestigious.

Conceptual framework. Given this research and theoretical foundation, I conceptualize trust networks' structure and potential for influence on graduate admissions as due to both interpersonal relationships among individuals and organizational relationships among graduate programs. Current applicants have the potential to bridge universities and academic departments, and they are more likely to do so if there is a dense network of prior individual relationships among their faculty and/or alumni. Figure 1 depicts relationships that may affect the creation of a tie between the current applicant and a graduate program. Potential person-to-organization relationships are represented as solid lines, and person-to-person relationships are dotted lines. The double line represents the potential for the presence of a strong tie encouraging exchange between two graduate departments and/or universities, such as pipeline efforts like the Fisk-Vanderbilt Bridge Program, membership in the same state higher education system, or common affiliation with a group like the Ivy League.

At the individual level, the need for trust in an applicant is directly tied to the tacit understanding that each student is a potential investment, comes with a profile of financial and reputational risk for the department/program,

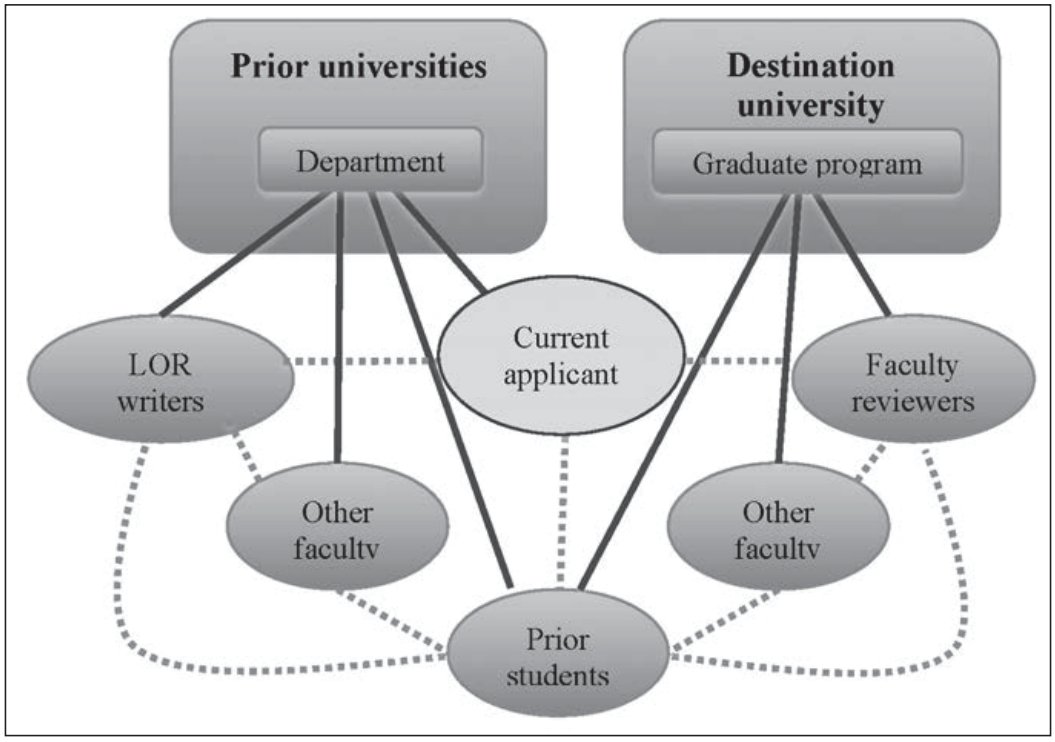

Figure 1. Structure of Trust Networks in Graduate Admissions

Note: Solid lines depict potential person-organization relationships; dotted lines depict person-person relationships; the double line represents a possible organization-organization relationship.

and may affect the productivity of the student's advisor to an unknown degree (Klitgaard, 1985; Posselt, 2016). This investment mindset makes many professors risk averse, especially in the face of ambiguities about student quality and likelihood of success. Professors may also default to assumptions about institutional quality as a proxy for student quality. A "university halo effect" thus favors students and alumni of respected educational institutions (Paxton & Bollen, 2003), and professors may make positive inferences about specific, unknown attributes. Additionally, through the content of letters of recommendation, the reputation of their authors, and judgments of program alumni who also came from the applicant's college or university, faculty gather proxy information about the quality of an applicant.

At the organizational level, graduate programs are embedded in trust networks composed of graduate programs that are regarded at least as highly as one's own. Danowitz Sagaria's work (2002) implies that recommendations from individuals and institutions in the trust network may be deemed more reliable, and Burris's (2004) findings suggest that graduate programs' patterns of exchanging students may be a process by which programs build

social capital and reinforce discipline-specific status hierarchies. Such findings are also consistent with signaling theory and the halo effect, which would hypothesize pedigree to be a key determinant of whom they trust. "Status takes on a life beyond the objective resources of the university" (Paxton & Bollen, 2003, p. 74) or the training and climate in specific departments.

The individual and organizational levels intersect, for individual faculty serve as agents for their respective departments and graduate programs. When professors make decisions to invest in the education of a given student, they do so on behalf of their colleagues and the program as a whole. Given the dynamics of status and judgment described above, professors may be more inclined to place their program's funds and reputation, as well as their colleagues' potential productivity, in the hands of applicants with high-status affiliations.

Methodology

The research design was a comparative ethnographic case study of the Ph.D. admissions cycle in ten doctoral programs at three well-known research universities. I conceptualized decision making in these programs as a combination of individual evaluation and collective selection, which led me to conduct analyses at both the individual and program level. In other publications from this project I report findings from the cross-discipline analyses (Posselt, 2015, 2016), but due to my agreements with participants and the Institutional Review Boards, I refrain from substantive discussion of variation across universities.

Sampling

I selected the three target universities for geographic and public-private variation, and because they have many of the types of programs I wanted to study: highly ranked doctoral programs in pure disciplines. Many qualified individuals apply to doctoral programs ranked highly by the National Research Council; therefore, the competing demands of selection come into sharper focus. The sample of programs was further narrowed to include a balance of programs in the humanities, social sciences, and natural sciences. Within each program selected through this process, my sample included at least six participants: admissions committee members, additional faculty with many and few years of experience in graduate admissions, and one emeritus professor. The sampling design is represented in Table 1.

Data collection

Over two admissions cycles, I collected a combination of interview and observational data to capture both front stage/espoused values and back stage/enacted values (Goffman, 1959). This paper foregrounds data from the 86

Table 1.
Structure of Sample and Types of Data Collection

Discipline Type	*Departments & Data Collection Types*		*Individuals*
	Year 1	*Year 2*	
Humanities	Philosophy (I&O)	Philosophy (I&O) Linguistics (I&O) Classics (I&O)	• Admissions committee chair & members
Social Sciences many	Economics (I) Sociology (I)	Political science (I&O)	• Faculty with few & years of admissions experience
Natural Sciences	Astrophysics (I&O)	Physics (I&O) Biology (I)	• Emeritus faculty

Note: I= Interviews, O= Observations of committee meetings

interviews, in which I probed participants about the meanings of common criteria and the challenges of admissions work. I conducted semi-structured interviews of about 45 minutes with each admissions committee chair, the other current members of the admissions committee, and with one emeritus professor in each program.

In an initial informational interview with the admissions committee chair, I inquired into details of the admissions process and assessed interest in further participation in the study. The first interview with committee members occurred early in the admissions cycle, and, in it, we discussed participant academic socialization, previous experiences with graduate admissions, as well as important criteria and what they are perceived to signal. I conducted follow-up interviews just after admissions decisions had been made in order to discuss profiles of admitted and rejected students, how it came to be that those applicants were selected or not, and how the characteristics of highly valued candidates for faculty positions compare to those of compelling graduate school applicants. Using interview strategies employed by Tierney and Bensimon (1996) and Lamont (1992, 2009), I also inquired about "ideal types" of applicants in order to draw out the ways faculty conceptualized quality in relation to specific individuals.

Data Management & Analysis

A professional transcriptionist transcribed 75% of the interview audio files, and I transcribed the remaining 25% to facilitate reflection on my practice as an interviewer and on the protocol. I used qualitative research software (NVivo version 9.2) for ongoing composition of memos, coding, and analysis of transcripts and field notes.

My goal in analyzing the interview transcripts was to apprehend the meanings that faculty associated with various criteria and how they interpreted the information they have about applicants. I employed the constant comparative method's practices of open, axial, and selective coding (Corbin & Straus, 2008; Glaser & Straus, 1967; Miles & Huberman, 1994). Beginning with a list of eight admissions considerations as sensitizing concepts (GRE, Grades, Curriculum, Institutional affiliation, Research experience, Research interests, Personal background, Diversity), I conducted line-by-line coding of each interview transcript. Themes related to the work of interpretation became apparent as faculty discussed these criteria, so I added new codes such as "Ambiguity," "Incomplete information," and "Trust" as they emerged. A second round of coding each transcript, with the list of codes developed by that point, ensured that interviews analyzed early and late in the first round were subjected to the same set of codes.

Then, through axial coding, I developed more fine-grained versions of some codes (e.g., different types of ambiguity), aggregated other sets of codes (e.g., letters of recommendation and institutional affiliation together comprise pedigree), and established relationships among the themes. For example, I related developing trust in individual applicants with proxy judgments of institutional status; together, these patterns highlighted the presence of trust networks, as I discuss in detail below. Next, through selective coding, I developed a narrative that supported the findings by identifying how groups of axial codes related to one another.

Finally, to encourage the trustworthiness of the findings and to respect my participants as co-constructors of the results, I shared preliminary findings with the participants in the study who had been admissions chairs. These member checking conversations also allowed me to offer each program an assessment of the strengths of their current approach to admissions, how it compared with other programs, and possibilities for improving it.

Limitations

One limitation of the research design is an imbalance of data among the departments studied: Of the ten, six allowed me to observe their admissions meetings. This imbalance does not affect the present manuscript significantly, since I foregrounded the interview data in my analysis; however, future researchers who seek multiple perspectives on the admissions process might limit their data collection to participants or organizations that are willing to provide the same type of data. Also, as mentioned, IRB agreements prohibited me from naming the institutions in which I collected data; however, this information surely would have provided valuable context—and perhaps greater validity—to the findings about faculty institutional preferences. Future scholars of admissions might construct research designs in which all parties involved see minimal risk from disclosure of both the department and university.

Findings

Trust is a powerful form of social capital in graduate admissions, one that enables faculty to invest in the future of applicants whose relative merits are difficult to determine based on the evidence available. This key finding emerged from the substance of three major themes in the data, each of which is related to a type of uncertainty and type of trust in admissions. The first theme is consistent with previous halo effect research: professors' uncertainty about the relative quality of students' academic preparation leads them to gauge applicants' legitimacy through impressions of organizational affiliations. Second, amid uncertainty about what can safely be inferred from grades, GRE scores, and letters of recommendation, faculty lean heavily on the reputations of letter writers and their own relationships with the writers. Finally, admissions experience leads professors, over time, to judge applicants by comparing them with program alumni who share an institutional affiliation or other important qualities. I discuss each of these findings in turn, then offer a discussion of their consequences for admissions outcomes.

"You have so little else to go on:" Uncertainty About Academic Preparation Compels Attention to Institutional Reputation

Rising GRE scores and college grade point averages among their applicants have reduced the utility of these criteria as means of distinguishing applicant qualifications. Essentially facing ceiling effects in these metrics, reviewers needed additional information to compare applicants. As an astrophysicist put it, "Grade point—most people said it doesn't really affect them very much because basically everybody in the pool—everybody in the final pool has such high GPAs that it's not meaningful." To respond to this dilemma, reviewers used other information in the application to add meaning to student grades. Specifically, they contextualized grades according to perceptions of the reputation of the institution where the grades were earned and the rigor of the student's curriculum. A sociologist, for example, explained his approach to evaluating students by comparing it to hiring new professors. I quote him at length:

> R: What's great about hiring professors is we have direct evidence of exactly what they did… It's not easy, but it is information rich, whereas I would say graduate admissions is information poor. So then one tends, or we tend, a lot to rely on signals that are low quality like, one of the frequently used ones is the quality or prestige of the undergraduate school. Lousy signal, I think.
>
> *I: Why is it valued so much do you think?*
>
> R: Because you have so little else to go on. You have grades, which I think are a good signal. But the people we admit are always going to be right around 4.0. Then you have the ones at the margins coming with a 3.9 or 4.1. So grades

> are increasingly a lousy signal, especially at these elite places that just hand out the A's. So you don't even have that anymore… What else do you *have*? You have the tests, and yeah, we definitely sort of have an expectation of high scores on the test even though no one *likes* to use them. But increasingly, you have plenty of people who are really high on the test scores and really high on grades. Tons of those people. So *now* what do you use?
>
> *I: It sounds like you're looking for variance.*
>
> R: Right, right. So you use the prestige of the school.

Professors held concerns about grade inflation, the noisiness of GRE scores as a signal, and whether undergraduate prestige accurately predicts graduate student success; however, reading scores and grades in the context of the institution's reputation effectively broadened the range of the numeric metrics, making them more useful to reviewers.

Rankings were only one of several standards for institutional reputation. Unsurprisingly, the Ivy League constituted a meaningful in-group trust network, but so did flagship public universities in the natural sciences and elite U.S. liberal arts colleges like Reed, Williams, and Wesleyan in the humanities. Seeing one's own *alma mater* on a student application in several cases stirred professors on an emotional level, except in the case of one graduate student participant who felt his undergraduate training had been weak. Such variation by discipline and personal experience are consistent with research that finds organizational "legitimacy ultimately exists in the eye of the beholder" (Zimmerman & Zeitz, 2002, p. 416).

In contextualizing grades according to highly personalized institutional status hierarchies, faculty reviewers effectively destandardized the scales for grades and grade point averages as indicators only of academic preparation or achievement. On one end of the new GPA range was low grades from a college that was unfamiliar or whose training in the discipline the reviewer regarded as weak. On the other end was a high GPA from an Ivy League university or other college with a reputation for strong undergraduate preparation in their discipline. Strong performance at strong institutions "carries more weight" and was awarded "higher marks" in the review process. Somewhere in the middle—and thus more difficult to interpret—were applications that noted strong grades from unknown universities or middling grades from prestigious ones. These cases challenged professors, for they seemed to be incommensurable with cases for whom the GPA *and* the institution's reputation sent clear, well-aligned signals about quality. For example, a sociologist described the committee's uncertainty about a student with a high grade point average from an institution they had never heard of: "I thought some of the things he had written were brilliant," my participant explained, "but I could see the risk. This guy could completely explode in our faces." The applicant had

already published a book in the discipline, but it was in another language, and the institution the student had attended was not in the United States.

Among applicants from universities unknown to reviewers, international students were thought to be particularly challenging to evaluate. Institutional context was usually just one of many ambiguities in an international applicant's file, and most professors in my sample were familiar with only a small handful of colleges and universities abroad. In biology, the admissions chair wanted international students to "count" in their diversity metrics, but he argued that due to rising demand from international applicants and their uneven training within and across countries, they should privilege applicants from known institutions. "The way international application works," he explained, "is that there is a cloud of random applications, but good applications come in pipelines."

Even students from well-known universities abroad could be difficult for professors to judge if their grades did not fall along the familiar four-point scale. I had the following exchange with Will, a mid-career philosopher. He lamented,

So many of the students come from radically different systems. We had one applicant whose undergraduate degree was in Iraq. I don't know how to interpret Iraqi grades. We also had quite a few Oxford applicants this year. I was getting to the point of knocking on doors of colleagues to ask, 'Does a 73 mean we really like them, or it's really terrible?'

I followed up by asking, "In the absence of somebody's door to knock on, how do you make sense of those?" He paused, eventually answering, "For some reason, I just discount them pretty heavily because I'm just guessing." Although grades have been found in both single-discipline and multidisciplinary studies of graduate admissions to be one of the most important predictors of admission (Attiyeh & Attiyeh, 1997; Gropper, 2007), it may be a weaker relationship among international students.

A few participants expressed discomfort with their colleagues judging student grades in the context of a college's or university's reputation. A junior scholar in the humanities noted that committees can never know which courses on a transcript have been graded on a curve, for example, and three expressed worries about grade inflation. "We don't know enough about their scores," she said, and then continued:

> I mean, I know there is some grade inflation in the private schools like Harvard and that's alright. Maybe it's different to get a better grade at UCLA. But then, I think it's too much to think about all of those because I don't have any information, so it can be misleading.

Absent obvious variance in grades and trust in their commensurability (Espeland & Stevens, 1998) across courses, institutions, and national education

systems, professors fell back on their impressions of institutional reputation.

"But we just don't know the letter writers:" Uncertainty About Letters of Recommendation and Their Authors

Letters of recommendation enabled professors to fill in informational gaps about personality, "soft skills," and other non-cognitive qualities such as motivation and enthusiasm that they wanted to gauge but which they did not trust to be satisfactorily captured by GRE scores or grades. For example, one scientist made a case to infer personality from letters:

> People are more than their facts. You've just seen the tip of the iceberg. You don't really know them. They might be stunning underneath and could do breakthrough science, but it's also important that you get along with them and won't have to push them.

However, participants worried that American letters of recommendation have become so inflated that their praise should not be taken at face value. Effective interpretation required, as a number of participants put it, "reading between the lines," sensitivity to euphemisms, and noting both "what people say and what they don't say." And in this context where reviewers were, as a philosopher admitted, "looking for a reason to cut," *any* negative comment could become magnified in readers' consciousness and interpreted as a red flag. Similarly, if a letter writer used generally positive language in a reserved tone, committees debated whether the tone should be interpreted as indicative of the writer's personality or as a lack of enthusiasm about the applicant.

Trusting relationships with letter writers thus aided professors in interpreting letters of recommendation. Readers expressed that a letter's praise was more "trustworthy" or "reliable," for example, if it came from a known source. They tried to glean signals of false praise—worried about investing a student who would ultimately fail to succeed. I asked one biologist, "What difference does it make to know the letter writer?" and he elaborated:

> What it means is that we can really, truly evaluate their letters because you *know* them. Sometimes if there are questions, we will actually just contact them. And say, 'You know, this sounds like you're saying the student is really good, but there are some issues.' That's one of the things you have to learn when you start to evaluate these applications, to be able to read the letters. It's rare to get a really bad letter, but there are some letters that on the surface may look good, but with enough reading and enough experience, you know this is really kind of a lukewarm letter *[laughs]*. And if it's a candidate that looks otherwise very strong, and it's someone in the U.S., we will sometimes take the opportunity to let them clarify what they really think.

As with institutional affiliations, a first-hand relationship with a letter writer was thought of as the best grounds for trustworthiness, but participants also

mentioned the importance of the letter writer's reputation as a scientist and letter writer. As the biologist quoted above went on to say:

> If they letter writer is, you know, you've read their science and you just think the world of them, then that carries a lot of weight. If the letter writer is someone who does mediocre work, that carries a lot less weight.

However, it was not only scholarly reputation that affected how much "weight" a letter would carry. A famous scholar in the humanities was mentioned multiple times in one department for being untrustworthy as a letter writer because he wrote "spectacular letters for everybody." And importantly, when a letter was deemed untrustworthy, it ultimately hurt the applicant, for the information gaps that necessitated letters in the first place persisted.

One applicant in philosophy was discounted altogether after a conversation that started with a member of the committee noting how one of the letter writers, "sounded like he was in love with her." They followed by reading some lines from this letters which—I had to agree— could be read as more than a professional endorsement. The letter discussed her appearance, for example, and what a "simply insane" move it would be for the program to let her "slip through their fingers." They laughed and laughed together about this case, but it quickly became clear to me as an observer that they would no longer be able to take her seriously as a candidate. This case was just one of many instances where trust in a letter writer provided a bottom-line basis for offering or denying admission. In the same philosophy committee, for example, the final word on discussion of three cases included:

> "The letter was written by a graduate student. I don't know how to read that."
>
> "I trust her [the letter writer] a lot, so it's powerful."
>
> "But we just don't know the letter writers."

Therefore, just as trusting the quality of a college or university facilitated judgment in the absence of confidence about grades' signaling power, trust in the authors of recommendation letters facilitated judgment when the sincerity of letters' praise could be unclear. Trust networks thus consist of both the universities or colleges in which students have enrolled and individuals who are willing to vouch for the student's quality.

"It doesn't mean a replay, but then again, it might!:" Expanding Trust Networks Through Alumni Relationships

Neither uncertainty about academic preparation nor ambiguity about the trustworthiness of letters of recommendation would matter so much if it were not for a third, more fundamental type of uncertainty: whether the student was likely to succeed. As a senior professor of classics put it, "My first

thing about graduate admissions is that we do it as conscientiously as we can, but it is a crap shoot. It really is. We don't know who's going to blossom and who isn't. We have not found reliable predictors." His comment is consistent with frequent off-handed comments by other participants that compared admissions decisions to "gambling" and "betting." For better or worse, faculty managed the uncertainty of this "crap shoot" by comparing their applicants with recently enrolled students and alumni. Individually and in discussions with one another, they updated their beliefs about which applicants would be likely to succeed by reflecting upon the performance of program alumni who possessed what they considered to be similar profiles, including shared institutional affiliations.

Availability bias (i.e., the tendency to make decisions on the basis of the most recent information available rather than the most complete information) could creep in when judging applicants from colleges and universities that had sent them few applicants over the years or which sent students who subsequently struggled in their programs. Recent memories of students who had struggled with coursework, qualifying exams, and/or the dissertation loomed especially large in their minds. However, there were also instances in which faculty came to favorable views of students and institutions through the performance of their alumni. Through a series of strong Ph.D. students in their program who had received M.A. degrees from a moderately selective public university, faculty in one of philosophy program had come to view that university as a trustworthy training ground.

As a rich example of how faculty learned to think differently about applicants, I share details from my interviews with Luke, an enthusiastic physicist who chaired his department's admissions committee. He discussed at length how reviewers' uncertainty about college quality could shape judgments of applicant quality. Applicants "are all flawed," he said with a straight face. "It may sometimes be a totally irrelevant flaw, just that they are from a college that we don't know about at all. That could be a flaw, or it could be totally irrelevant, but it does give me some uncertainty." Later in our interview, he recounted the accomplishments of an alumna who nearly had not been admitted because of her college affiliation. "We were a little concerned, and ...it was totally irrelevant. [She was] a great catch." I probed, "Does a situation like that end up changing how you screen future individuals?" He gave me a knowing look, and said, "Um, it's called *experience* on some level, but not in a systematic way." With each additional year of experience working in admissions and year of opportunity to observe students' educational performance, faculty felt they were better able to use past and present students' characteristics, experiences, and achievement as a basis for judging applicants.

Extrapolating from the performance of other students who had gone to the same undergraduate institution was one example of a broader strategy of classifying applicants, which faculty used to manage the uncertainty of

admissions. Luke also discussed with me how, as chair, he struggled with the mandate to serve as the "memory" of the admissions committee. He acknowledged that "because each of them [students] are different," typing them was bound to result in "mistakes." He provided an example of misclassification and how the committee thought about the applicant:

> Somebody had a misleading, high GPA from whatever school we thought was reputable, but he actually turned out to do poorly. You say, 'Whoa. What if we get somebody else that has a high GPA from the very same school?' Well, it's not the same person you know. It doesn't mean a replay, but then again, it might! *[He laughs]* So we're sort of like, 'Ok. What do I do with that? I don't know! I don't know what to do.' And that means we will make mistakes…. Some will struggle for the reason that we were a little apprehensive about in the first place, but others we look and say, 'How on earth could we have seen that from the application? How could I have seen that? Other people with the same characteristics are doing so smoothly.' I tell my colleagues, 'Well you know, um, look. I mean, don't beat yourself up too bad. Do your best.'

Unlike the first two themes, the finding about faculty extrapolating from alumni performance to predict applicant performance helps reveal what it takes to *change* trust networks. If the network is not already institutionalized, trust networks typically develop informally and slowly. Expanding them only through the admissions process is an imperfect process of learning that requires extending admission offers that feel risky at the time.

Discussion

I found in this study that trust is a powerful form of social capital in admissions, one that facilitates willingness to invest in a student despite incomplete evidence of present preparation and future success. The relations of trust that facilitate admissions occur not only between persons; they are also organized and institutionalized in networks consisting of postsecondary institutions and the students and faculty who have been affiliated with them. Although some networks like the Ivy League and Big Ten are well established, I found that trust networks are not static, that faculty engage with them based on their own experience, and that they could be expanded or narrowed through reports about the performance of program alumni.

These findings are consistent with results of recent social psychological experiments that decision makers default to stereotypes in the presence of ambiguity (Epley & Krueger, 2005) and that dense networks encourage information flow by improving access to trusted information (Bitekine, 2011; Coleman, 1990). In graduate admissions, the lack of clarity about how prior grades and letters of recommendation should be interpreted, and the related difficulty of predicting with confidence which applicants were likely to be

successful, led faculty to make proxy judgments of quality rooted in perceptions of trust and distrust. Specifically, their judgment was influenced by their trust in the *quality of undergraduate institution* (i.e., because the rigor of a given student's training may be unknown), the *reputation of recommendation letter writers* (i.e., because the sincerity of praise is often unclear), and their judgments of program alumni with similar characteristics (i.e., due to availability bias). Together, these individual and institutional relationships compose trust networks that faculty routinely leaned upon to augment the incomplete information available.

Professors' deference to institutional reputation in the face of uncertainty about qualifications is also consistent with social and economic theory. Their devaluing applicants from unfamiliar institutions, for example, comports with research on status judgments of organizations (Bitekine, 2011; Podolny, 1994; Sauder et al., 2012) and signaling theory, which asserts that predictive uncertainty elevates the value attributed to high-status signals (Spence, 1973). This sociocognitive explanation for pedigree's value complements other interpretations, which emphasize cultural dynamics including homophily (Posselt, 2015; Rivera, 2015) and/or its effect of reproducing existing power relationships in a given field (Bourdieu, 1977).

Findings also support social theory about trust that repeated encounters (such as that which occurs when an undergraduate program repeatedly sends graduates to the same Ph.D. program) help individuals learn whether trust is warranted (Buskins, 2002). Following an initial decision to trust, the trustor gains information from the trustee's behavior about whether extending trust was a wise decision. Follow-up behavior thereby leads the trustor to adjust or update his beliefs about trustworthiness. In admissions, repeated encounters with various 'types' of applicants induces the decision maker to perceptions of trust or distrust when a particular applicant who shares traits of those 'types' is under consideration. Faculty inexperience with a range of applicant "types" (Stevens, 2007) may narrow the range of applicants whom a professor perceives as trustworthy, or may bias her toward applicants with credentials similar to her own. Through this process, trust may operate as a core "mental state" mechanism (Demeulenaere, 2011, p. 79) that can also help explain evidence of elite cultural homophily (Posselt, 2016; Rivera, 2015).

To the extent that trust in applicants becomes a matter of perceptions about their status and pedigree, however, it can be a double-edged sword. It facilitates decisions in the absence of desired information but can also harden lines of institutional stratification by unnecessarily calling into question the quality and belonging of those affiliated with institutions that have weak name recognition or which have previously sent few students. In short, the micro-level interactions between professors and graduate school applicants both reflect and can help to create macro-level structural inequalities in higher education today. Given Black, Latino, and Native American underen-

rollment in the most selective U.S. undergraduate institutions (Carnevale & Strohl, 2013; Posselt, Jaquette, Bastedo, & Bielby., 2012) achieving more equitable graduate enrollments will require broadening trust networks beyond the usual feeder institutions and paying greater attention to recruitment in general (Rogers & Molina, 2006). With the need to open or broaden trust networks in mind, I turn to discuss the implications of this study.

Implications

Findings presented here open new directions for scholarship on admissions and on trust networks in higher education, and can contribute insights to improve the conduct and policy of both graduate and undergraduate admissions. I comment on each of these in detail.

Implications for Future Research

This study identified patterns that quantitative methods are well positioned to assess using a larger sample of programs and universities than those that I studied. For example, Attiyeh and Attiyeh's (1997) analysis of factors associated with graduate admission is due for an updating, and in the course of that work, one could reanalyze the strength of college selectivity or ranking as correlates with admission. To test the hypothesis that faculty contextualize grades using institutional reputation, one could use multilevel logistic modeling to explore the relationships of undergraduate institutional selectivity with the odds of admission, both as direct influences and as mediated by undergraduate GPA. Alternatively, in a single-level model, researchers could assess whether there are significant interaction effects between college grades and college selectivity in predicting graduate school admission outcomes.

This work also suggests specific directions for exploring the structure of networks influencing graduate and undergraduate admissions. Researchers have used social network analysis to examine discipline-specific institutional exchange patterns at the faculty level (See, for example, DiRamio, Theroux, & Guarino, 2009). Similar studies could capture networks of student exchange between undergraduate and graduate degree programs and the extent to which these networks overlap with disciplinary and national prestige hierarchies. Network studies of undergraduate admissions might map common high school to college pathways, such as those observed for a given group of postsecondary institutions (e.g., public flagships, Ivy League, MSI's) or for the high schools in a particular metropolitan areas or state. Considering such data longitudinally would enable us to visualize the trend that high-achieving and high-income students *increasingly* enroll in postsecondary institutions outside their state.

Finally, the findings of this study invite other scholars to apply and extend the theory of trust networks to understand their role as social glue and

social capital in higher education. In this paper, I used the case of faculty judgment in graduate admissions to argue that trust networks have both individual and organizational dimensions, and that when decision makers serve as representatives of their department or university, these dimensions may intersect. In future research, researchers might operationalize trust as an individual or organizational capacity and measure it as a factor shaping any number of social relations in higher education, such as the ability of diverse groups of students or faculty to learn together effectively. Knowing that trusting relationships are positively related to organizational effectiveness in other domains (Tilly, 2005b), future studies of organizational culture in higher education could examine the interactions, experiences, and conditions that encourage or compromise trust. I would go so far as to maintain that research on trust is essential for the field of higher education, given the deep divides that separate groups of students from one another, faculty from administrators, and colleges from their communities.

Implications for Admissions Policy and Practice

From a policy standpoint, this research highlights the role of elite college credentials in promoting access to doctoral education and the associated need for more equitable access to the undergraduate institutions that graduate programs privilege. Graduate programs receive applicants at the end of a long process of social selection, so unequal opportunities and outcomes at the K-12 and undergraduate levels carry forward and accumulate to manifest as stratification in graduate education (Posselt & Grodsky, forthcoming).

However, the findings also imply that selective doctoral programs would do well to acknowledge and broaden the trust networks—and conceptions of social capital and student quality more generally—that affect their admissions decision making. To this end, I have specific recommendations for admissions committees and graduate school administrators: As part of their leadership, admissions chairs can use current research to spark committee conversations about individual and group norms. Like other institutionalized preferences, the preference for pedigree often remains tacit, and this may contribute to its persistence; therefore, speaking openly about skepticism and/or support for particular institutions or institutional types may draw out assumptions that need to be challenged.[1] Committees can also work with their graduate school to catalogue the institutions from which they have admitted and rejected students over the last decade, both to manifest implicit preferences and/or to highlight regions of the country and/or institutional types from which they

[1]Of course, there needs to be a modicum of trust among faculty themselves for such conversations to occur. Strong collegiality and a spirit of friendly debate made possible an environment where one professor could correct another's misperceptions about institutional affiliations.

rarely enroll students. Are they enrolling students from liberal arts colleges? From minority-serving institutions? How many of their admitted students started in community colleges? Bringing to the surface what it is about some institutions that produces a sense of support or doubt, as well as determining the presence of actual networks, may help faculty and administrators become more intentional about their recruitment and selection efforts. Finally, committees should discuss how they will manage the inevitable uncertainties that admissions evaluation entails, so they are less likely to succumb to the cognitive biases and stereotypes that uncertainty often induces.

My findings also indicated that broadening trust networks requires faculty to gain information that enables them to better contextualize student characteristics. To this end, graduate schools could provide resources to departments about the grading schemes used in different countries, to promote better interpretation of international applicants' academic performance. Broadening trust networks may also require committees to make admissions offers that seem risky at the time. To reduce perceived risks and increase access from minority serving institutions to historically white research universities and Ph.D. programs, there is a promising movement afoot to build institutional partnerships. Initiatives like the Fisk-Vanderbilt Bridge Program and the M|Core program in the University of Michigan's chemistry department represent efforts to broaden the trust networks that affect opportunities in graduate education.

Faculty with admissions responsibility may also need to gather more information about the quality of training that occurs in less selective institutions, as well as the benefits associated with enrollment in mission-driven colleges and universities, such as minority-serving and religious institutions. Administrators can encourage this learning by incentivizing faculty to take time to revisit their usual admissions routines and examine the evidentiary basis for commonly held assumptions about student and institutional quality. For example, two of the three universities in which I collected data offered university-wide events for those involved in admissions to learn more about current research and strategies to improve recruitment and yield; unfortunately, few faculty attended in the absence of incentive or accountability. With a process as decentralized as doctoral admissions, faculty development and other interventions to improve admissions should therefore also optimally occur at the program/committee levels.

Conclusion

Karabel (2006) noted that selective admissions tend to privilege those students who are already advantaged. Just as a preference for applicants from elite college preparatory high schools has been one way that selective

colleges and universities indirectly reproduce social stratification, graduate programs' admission preference for students from elite colleges and universities contributes to inequality in graduate education and the labor market. To interrupt these patterns of social reproduction, I have argued in this paper that we need to acknowledge the sociocognitive function that pedigree plays in admissions—namely, in facilitating trust amid incomplete information. We need not impugn the role of trust in admissions, for it is inherent to most social transactions and indeed serves important purposes. Rather, the greater need – as with other aspects of the subjectivity that comes with professional judgment—is for decision makers to become more self-critical about their own instincts to trust. As an associate professor of classics summed up the ubiquitous challenge of admissions, "You just never know who the exciting student is going to be."

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