

 THE RESEARCH AGENDA

Criteria and Procedures Used for Holistic Admissions Procedures in Graduate Degree Programs

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This study sought to understand criteria and procedures used for holistic admissions in graduate programs. The authors identified terms defining desired applicant qualities based on their experiences, attributes, and academic metrics. The authors also identified institutional diversity-related admissions priorities by analyzing institutional admissions webpages and tools. This work could inform future holistic admissions procedures and tools.

Holistic admissions generally refers to a process of evaluating applicants beyond just their academic achievements and test scores, considering their personal experiences, interests, talents, and potential contributions to the campus community (Addams, *et al.* 2010; Bastedo, *et al.* 2018; Kent and McCarthy 2016). In practice, holistic admissions procedures are often vaguely defined, and their use in practice remains elusive given the lack of transparency about the criteria used to evaluate candidates (Bastedo, *et al.* 2018). As a general approach, the notion of holistic admissions was developed to identify and admit students with a variety of experiences and skill sets who would thrive in and contribute to a diverse and intellectually stimulating environment (Maude and Kirby 2022). The use of holistic admissions procedures is likely to continue, particularly considering a diminishing emphasis on standardized test scores and other academic metrics (Cho-Baker and Kell 2022; Lofaro 2021).

Given these circumstances, some contend that holistic admissions procedures are a particularly critical topic to consider in graduate admissions (Cano, *et al.* 2018; Possett 2015, 2016) as well as within broader frameworks of graduate enrollment management (Balayan, *et al.* 2022).

Although the underlying goal of holistic admissions is often assumed to achieve a more equitable admissions decision-making process (Glazer, *et al.* 2014), some have argued that holistic admissions procedures are rooted in a history of practices designed to exclude certain groups of individuals from seeking higher education (Bastedo, *et al.* 2018). Holistic admissions procedures have more recently faced criticism and legal challenges (Kalsbeek, *et al.* 2013). Criticisms of holistic admissions decision-making often point to its potential lack of transparency and predictive validity (Highhouse and Kostek 2013; Kuncel, *et al.* 2013; Woo, *et al.* 2023), as well as the potential that such procedures may be biased

against certain applicant groups (Orlando 2021). Some have argued that admissions procedures that lack transparency may be particularly biased when admissions committees themselves are lacking in diverse representation (Posselt 2016). To achieve holistic admissions procedures that address these concerns, programs, colleges, and universities may need to provide more evidence and transparency about admissions decision-making procedures (Hossler 2023; Liu 2022). Toward developing a better understanding of current holistic admissions decision-making practices, the authors conducted a review and offer a synthesis of criteria and procedures, particularly in the form of candidate evaluation rubrics, used to guide holistic admissions decision-making.

Defining Holistic Admissions

One commonly used definition is that proposed by Hampton, *et al.* (2022), which refers to holistic admissions procedures (HAPS) as “a balanced assessment of an individual student’s likelihood of academic success in a collegiate environment.” This definition further distinguishes the applicants’ qualifications with respect to their *experiences*, *attributes*, and *academic metrics* (EAM) and emphasizes this as one framework for implementing HAPS (see Addams, *et al.* 2010; Decoux Hampton, *et al.* 2022; DeWitty 2018). While often conflated with the term “holistic admissions,” a college/university admissions procedure having a “test-optional” or “no-test-requirements” policy toward standardized tests such as the SAT/ACT, GRE, GMAT, etc., is not sufficient evidence for a holistic admissions process based on the aforementioned definition.

According to this framework, *experiences* may include professional, volunteer, or community service experiences; *attributes* refer to the candidate’s personal qualities, including aspects of their personality as well as communication skills and other identity-defining characteristics; and finally, *academic metrics* includes a range of criteria reflecting academic progress including prior courses completed and grades or grade-point average, in addition to any standardized test score requirements (Hampton, *et al.* 2022). Some empirical evidence suggests that the use of holistic admissions criteria

that encompassed these three dimensions resulted in a more diverse medical school interviewee pool than using academic metrics alone (Grabowski 2018). However, evidence supporting the use of holistic admissions criteria resulting in a pool of applicants who are more likely to be successful in a given graduate program is sparse, regardless of whether the process adheres to the EAM framework or not. Some evidence even suggests that scores assigned to Ph.D. applicants by an admissions committee using a holistic review process did not significantly predict certain outcomes such as students’ time to degree, irrespective of students’ background characteristics (Walters, *et al.* 2022).

The three dimensions of the EAM framework appear to be widely recognized within research on holistic admissions (Kent and McCarthy 2016), yet there are some additional dimensions to consider. Effective communication skills, particularly in writing and speaking, are often regarded as necessary for success in graduate education programs (Burton and Wang 2005) and the workforce beyond (Robles 2012). Such skills have traditionally been captured based on verbal and writing components of standardized assessments such as the GRE. However, with the growing adoption of test-optional admissions policies (Cho-Baker and Kell 2022), there may be an increasing interest in obtaining and considering alternative sources of information from prospective student applications (Haviland, *et al.* in press). While the original framework described by Decoux Hampton, *et al.* (2022) regards communication skills as a type of attribute, given their discipline-general relevance within graduate education programs, they could be viewed with unique emphasis and thus regarded separately from other applicant attributes. The authors also recognize that the three “EAM” dimensions are not necessarily mutually exclusive and that certain sources of evidence inferred from a candidate’s application could be reflective of multiple dimensions simultaneously. For example, an applicant who provides information about having served in a leadership capacity through past professional or volunteer work may be viewed as having leadership experience and possessing attributes associated with leadership potential. Similarly, a candidate

who has previously worked in a research capacity (*e.g.*, worked in a research lab) and describes their enthusiasm for research and/or scholarly publications that have resulted from their work in that capacity may be providing evidence of desired experience, attributes, and academic metrics in the eyes of admissions committee members. Such overlap between the applicant's experiences, attributes, and/or academic preparation and the institution's values can sometimes appear in reference to the "fit" between the applicant and the institution or program (Bastedo, *et al.* 2018; Mattern, *et al.* 2010).

In addition to these three "EAM" dimensions reflecting qualities of the applicant, many colleges and universities also describe priorities related to diversity, equity, and inclusion (DEI) in their admissions decision-making process. While not directly encompassed in the original EAM framework (Addams, *et al.* 2010), it may be important to identify instances in which there is an emphasis placed on considering the applicant's background or qualifications with an emphasis on priorities related to DEI. Such admissions criteria might involve a consideration of the applicant's experience as a member of a historically-marginalized or excluded group, or interest in working to support individuals from such populations. In graduate admissions, students have been considered a member of such groups based on a variety of factors including if they are from low-income backgrounds, are the first in their families to attend college, are students who identify as Black/African American, Latinx, American Indian, and/or Alaskan Native, claim disability status, or identify with another historically-marginalized group (Rendon 2006). For example, Boske, *et al.* (2018) developed and proposed a model for holistic admissions processes through a sociocultural method of inquiry, which emphasizes diversity and equity-conscious practices and policies throughout the admissions decision-making process. Instead of viewing DEI initiatives within the existing dimensions of the EAM framework, the authors have chosen to evaluate such initiatives as a distinct component within the framework. As such, the framework used in the present study will be referred to as "EAM+D," acknowledging experiences, attributes, and academic metrics of ideal

applicants, in addition to the priorities of the institution with respect to DEI initiatives such as recruiting students from historically-marginalized or underserved communities (*see* Figure 1, on page 60). For many institutions, there may be no direct reference to DEI priorities in admissions decision-making processes with respect to recruiting and retaining students from diverse backgrounds given that certain state legislatures have historically prevented such efforts, particularly in the case of race-conscious admissions (Kent and McCarthy 2016). As such, the extent to which priorities are emphasized may not necessarily reflect institutional priorities, but rather, legal constraints. The data in this study were collected prior to the U.S. Supreme Court ruling banning race-conscious admissions, but schools may now have even more motivation to avoid direct reference to DEI priorities.

Purpose

Few details about how HAPs are implemented across institutions are publicly available, and even those details that are available suggest that such procedures vary considerably between programs and institutions. Understanding holistic admissions in relation to graduate degree programs is important for several reasons. Unlike admissions decision-making in undergraduate programs, admissions decision-making processes for graduate degree programs are considerably more decentralized for several reasons according to Kent and McCarthy (2016). First, they are more likely to be determined based on input from a small committee of disciplinary experts. Second, they are less likely to have evidence to support their efficacy in identifying candidates likely to have successful academic outcomes given the limited pool of applicants and admitted students. To address a critical need for understanding graduate holistic admissions in practice, the authors conducted an investigation consisting of two parts, with the first focusing on criteria and the second focusing on procedures for graduate-level holistic admissions.

Given the disparate definitions of holistic admissions in use today, understanding the types of candidate qualities valued by a range of graduate admissions that

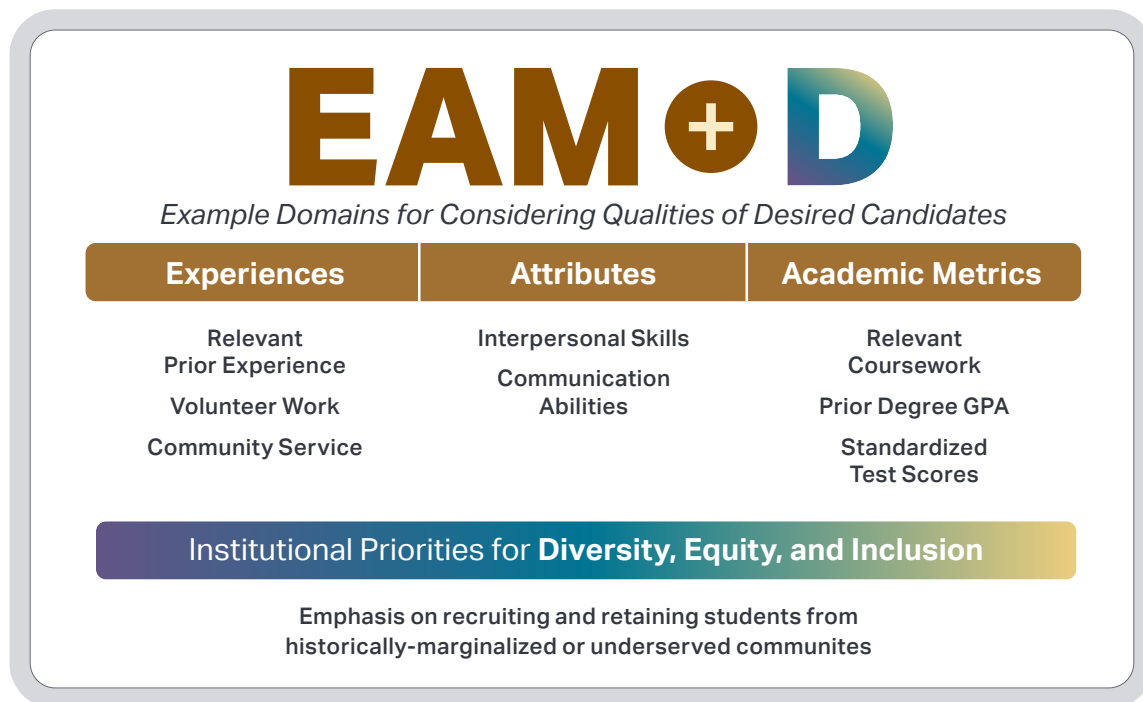


FIGURE 1 ► EAM+D Framework for Holistic Admissions

are aligned with the EAM+D framework could provide insight about the use of holistic admissions in practice. In study one, the authors identified frequently-used criteria for evaluating prospective students' applications that aligned with the EAM+D framework. Toward this aim, they extracted information from admissions webpages for graduate degree programs from a selected sample of colleges and universities reflecting the main dimensions of EAM+D framework of holistic admissions described previously. They then analyzed the text, identifying keywords associated with each dimension.

In study two, the authors were subsequently interested in synthesizing and evaluating features of the EAM+D framework in a collection of rubrics used for admissions decision-making purposes. Having identified key terms associated with the dimensions of the EAM+D framework, the authors wanted to gain a better understanding of how the framework may be used by admissions committees in practice. The use of rubrics has been proposed as one possible approach to imple-

menting a holistic admissions decision-making process given that they allow an evaluator to weigh multiple sources of information about an applicant simultaneously and arrive at an evidence-based decision (Kent and McCarthy 2016; Miller and Posselt 2020). Given that many institutions are reluctant to share detailed information about admissions decision-making, rather than attempting to be comprehensive, the authors identified rubrics through a selective review process. For both study one and two, all data were collected between October 2022 and March 2023.

Study 1: Identifying Common Candidate Criteria for Graduate Holistic Admissions

In study one, the authors reviewed selected college/university webpages for graduate degree admissions with respect to the key dimensions of the EAM+D framework. They evaluated the types of applicant criteria within the EAM+D framework. This investigation pro-

vides a more concrete set of qualities for each domain within the EAM+D framework.

Methods

Several methods were used to collect college/university samples and sources of criteria. Eight institutions with graduate programs were randomly selected from the Integrated Postsecondary Education Data System (IPEDS) database for evaluation (Cho-Baker and Kell 2022; Sotelo, *et al.* 2023). The authors identified five colleges/universities that explicitly advertised holistic review or consideration of personal experiences and attributes in addition to academic metrics. Three of them also appeared to prioritize DEI based on the inclusion of a statement posted on or linked from the admissions page. It is important to note that mentioning academic metrics alone did not indicate a holistic admissions procedure. In addition to IPEDS, a survey administered to admissions decision-makers identified 86 graduate institutions that claimed to evaluate applicants holistically (Haviland, *et al.*, in press). Among them, only 30 mentioned holistic admissions practices or decision-making based on factors beyond academic metrics. Of these, ten programs or institutions prioritized DEI.

The authors also searched for publications on rubrics and similar resources to support holistic admissions decision-making. Using various combinations of key terms (*e.g.*, “holistic,” “admission*,” “college,” “university,” “rubric,” etc.) they identified nine additional institutions that provided information about twelve rubrics used for graduate admissions decision making. Between October 2022 and March 2023, the authors gathered information from the identified college/university webpages. Two researchers evaluated randomly-assigned admissions webpages, recording basic source information, explicit use of holistic procedures, desired experiences, attributes, academic metrics, and DEI priorities. Weekly meetings were held to discuss coding and resolve discrepancies. A third researcher reviewed a sample of 20 institutions to ensure consistency. After collecting webpage information, they conducted one- and two-gram analyses using the R statistical en-

vironment and relevant packages to identify key terms associated with the EAM+D framework.

Results

As noted above, relatively few institutions specifically mentioned the term “holistic” in reference to their admissions decision-making procedures. This finding alone is surprising, given that institutions that had previously been identified as using a holistic admissions process were specifically selected for analysis. While the college/university webpages may not have mentioned the use of a holistic admissions process, they may still have mentioned characteristics of desired candidates aligned with the EAM+D framework described previously. Of the 103 (5 from IPEDS, 86 from survey administration, 12 from web search for rubrics/tools) programs or institutions initially identified (*see* Table 1, on page 69), 34.0 percent included some language associated with “experiences of desired candidates,” and 33.0 percent included some language associated with “personal attributes of desired candidates.” Nearly all colleges/universities required information about the candidate’s academic history (*e.g.*, transcripts), and to a lesser extent, most required standardized test scores. However, 46.6 percent actually included more detailed descriptions related to specific academic metrics. In addition, 25.2 percent included some description of priorities related to DEI.

Using language associated with each of the dimensions of the framework, we then conducted separate *Ngram* analyses to identify the frequency of common terms or phrases reflecting each. (*See* Figures 2–5, on pages 62–65.)

The one-gram terms tended to refer to *research*, *experience*, and *background*. Terms such as *academic* and *study* likely reflected previous academic experience (*e.g.*, coursework, academic preparation) were also considered relevant experiences, highlighting some potential overlap with the academic metrics domain of the EAM+D framework. Certain key terms (*e.g.*, *statement*, *interest*, *purpose*, etc.) likely referred to the sources of evidence used to identify relevant experiences, as further suggested by the two-gram terms.

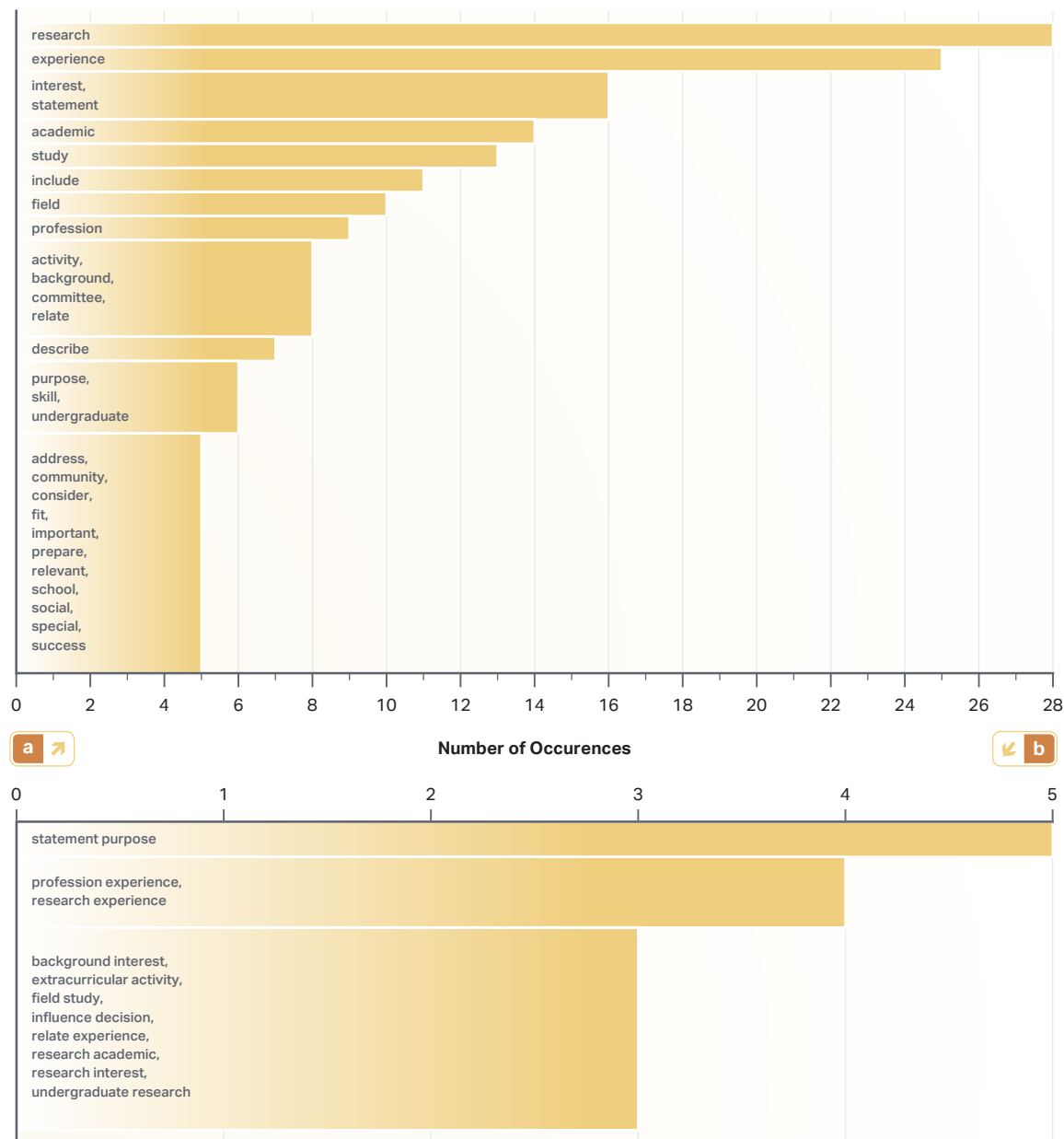


FIGURE 2 ➤ Key Terms for Text Associated With “Experiences of Desired Candidates”
Showing (a) 1-gram and (b) 2-gram

Some key terms that emerged appeared to point to general attributes like *skills* and *writing*. In addition, some key terms seemed to point to more discipline-specific attributes, which appeared to be supported by the two-gram terms (e.g., *patient*, as in “patient care”). Many of the two-gram terms appeared to reflect qualities associated with medical professions. This did not come entirely

as a surprise given that programs for degrees to prepare enrollees to serve in healthcare professions (e.g., as nurses or medical doctors) often had relatively well-defined criteria for the attributes and other non-cognitive skills of desired candidates. Such criteria may reflect the decades-long commitment to bolstering holistic admissions procedures from organizations like the Association

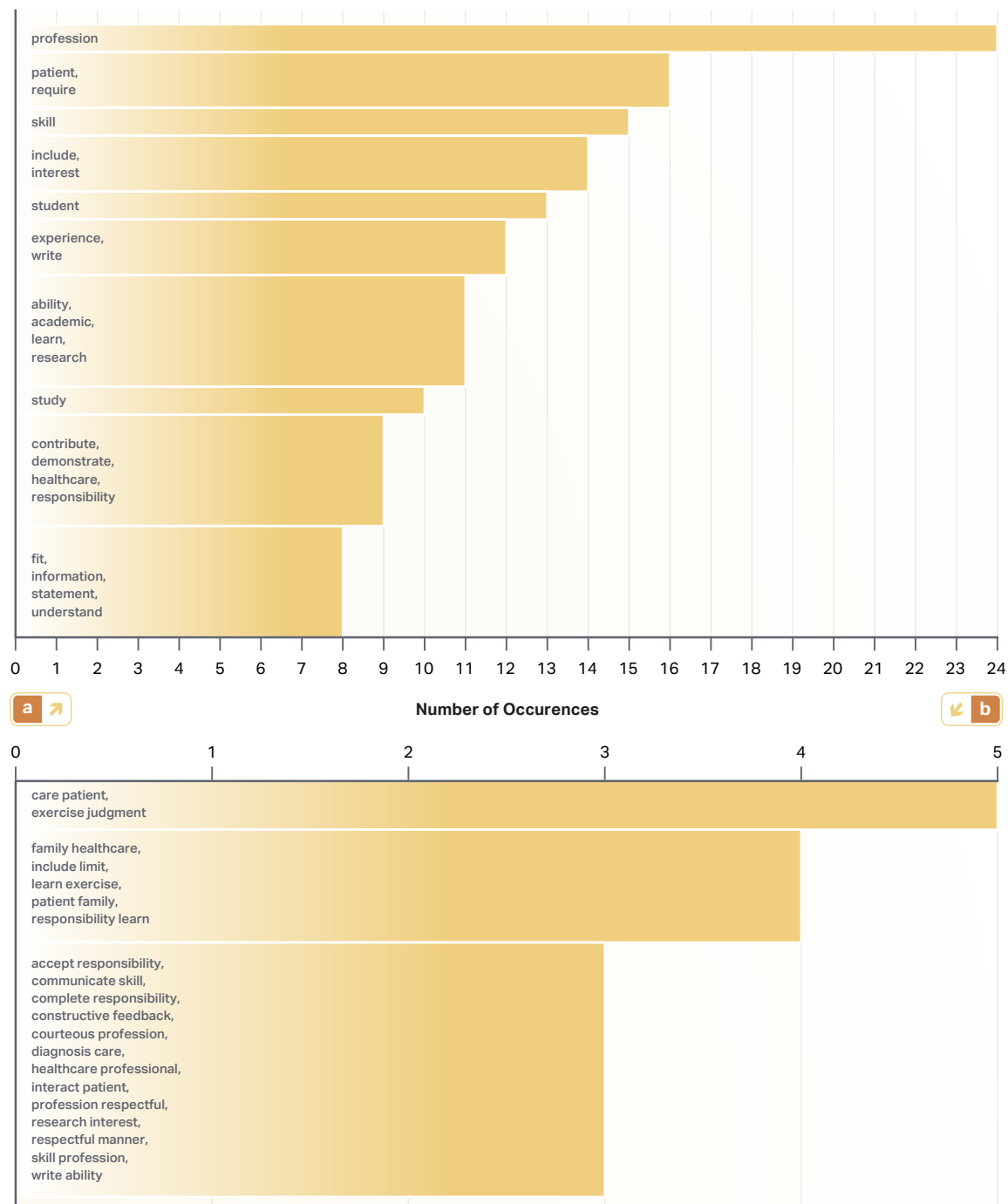


FIGURE 3 ► Key Terms for Text Associated With “Attributes of Desired Candidates”
Showing (a) 1-gram and (b) 2-gram

of American Medical College (Addams, *et al.* 2010), as well as more recent initiatives by the American Association of Colleges of Nursing (AACN 2020).

Descriptions of academic metrics were relatively sparse and lacking variation. Several of the most common key terms reflected some of the more traditional

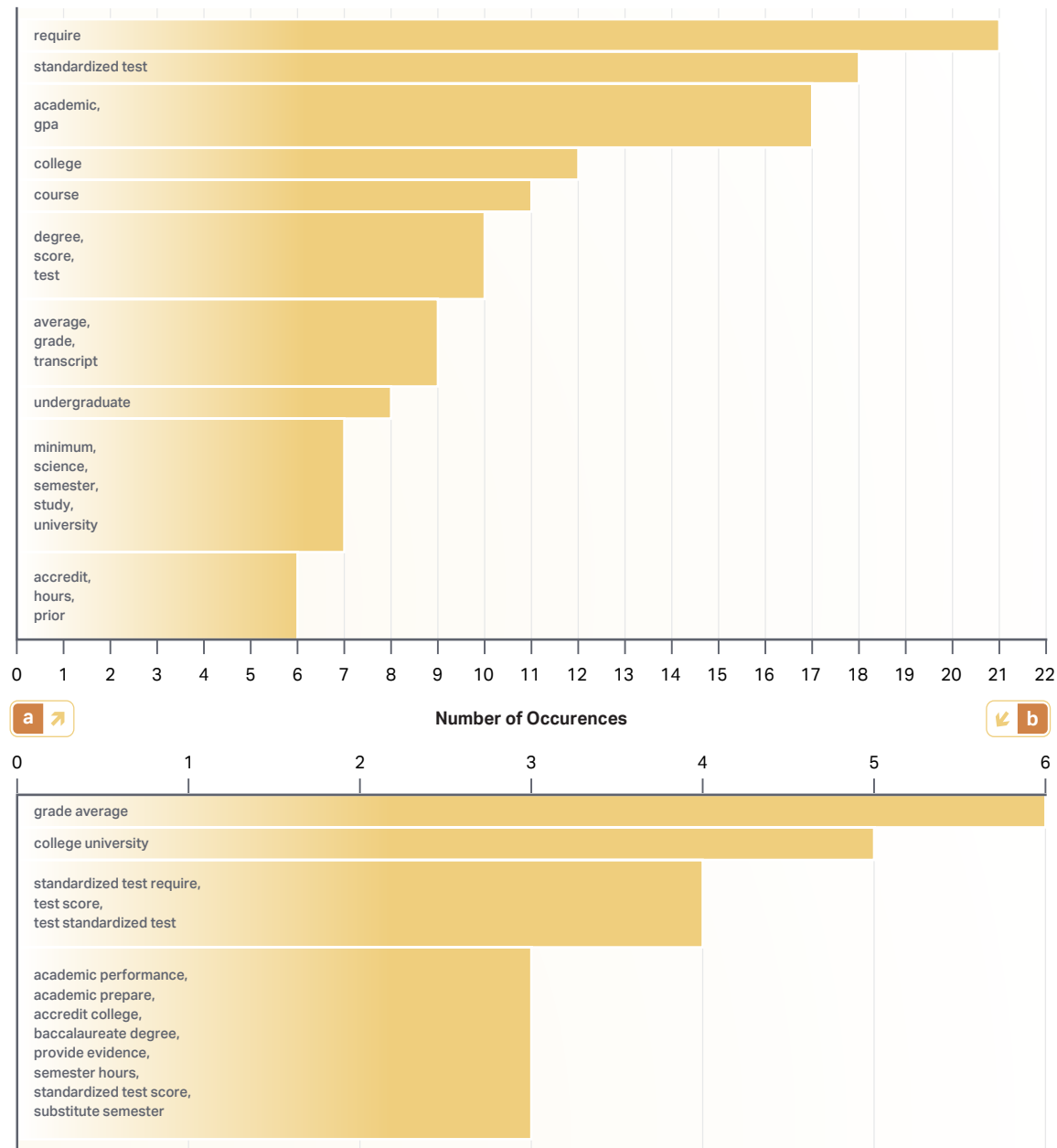


FIGURE 4 ► Key Terms for Text Associated With “Desired Academic Metrics of Ideal Candidates” Showing (a) 1-gram and (b) 2-gram

Note: Some terms, such as “standardized test” (seen here the in one-gram results) were treated as a single term given it contains unique meaning.

sources of evidence for identifying applicants based on academic metrics, including *standardized tests*, *GPA* (grade point average), *score*, *test*, and *degree*, among others. The two-grams generally supported this finding.

Given that there were fewer instances of language reflecting DEI priorities on the admissions pages of the included institutions, one- and two-grams did not emerge with great frequency. Based on the key terms

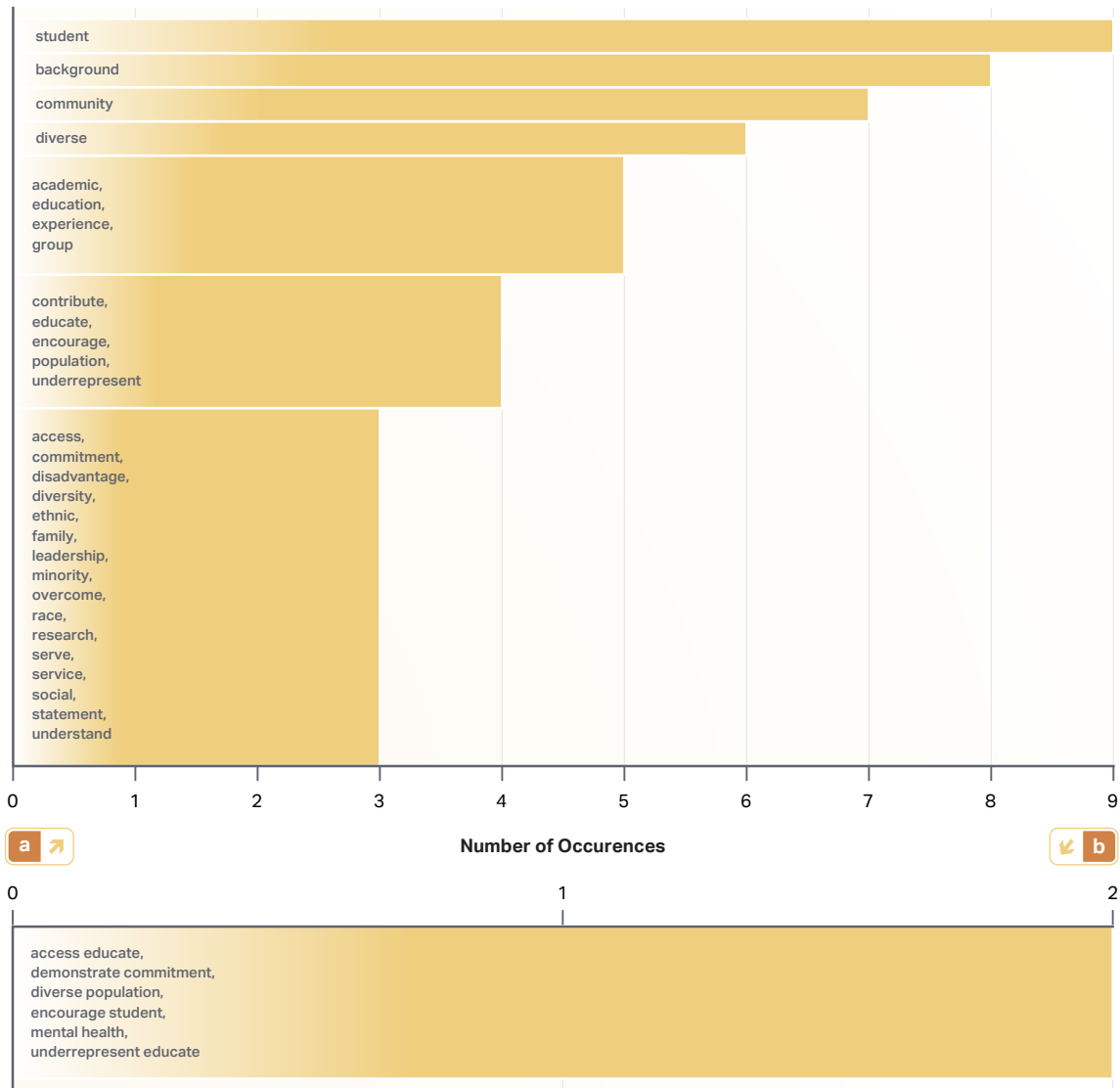


FIGURE 5 ➤ Key Terms for Text Associated With “Admissions/Institutional Priorities Related to DEI” Showing (a) 1-gram and (b) 2-gram

and the scan of the included text, the language used to describe DEI priorities often referred to key concepts such as the *student's background*, *community*, and *diverse* aspects of their identity or *experience*, and conveyed a commitment to recruiting students from *historically-marginalized groups*.

Study 2: Understanding Procedures and Tools for Graduate Holistic Admissions

Having developed a more concrete understanding of the types of qualities likely to appear in reference to each of the domains of the EAM+D framework (Study 1), the

authors were better prepared to synthesize the criteria from the rubrics more systematically. In study two, they gathered rubrics and other applicant screening tools, and evaluated the types of evidence and procedures used to support holistic admissions decision-making at the graduate degree level.

Methods

To analyze existing rubrics and find common themes, three researchers qualitatively coded twelve examples (see Table 1, on page 69). Inter-rater reliability was established by independently coding one rubric and comparing the results. Extensive discussions led to consensus on each resource's coding. The initial coding round encompassed three dimensions: experiences, attributes, and academic metrics, derived from the HAP description, in addition to institutional DEI priorities. During team discussions, the authors added two new coding criteria. First, "experiences/attributes" addressed qualities developed through life experiences that did not fit neatly into existing EAM+D domains. For example, such characteristics included resilience, demonstration of the ability for long-term planning, and language(s) spoken. Second, a sub-dimension was added to note references to written and interpersonal communication skills within the "attributes" domain. After refining the coding procedure with these additions, a second round of coding identified instances of the new categories.

Results

This section describes the findings from the review of selected rubrics. Table 2 (on page 71) shows a summary of the twelve different resources used for holistic admissions found from ten different colleges and universities. Most of the resources found were developed or had been used for admissions to master's, doctoral, or other licensure programs (*e.g.*, B.S. in nursing). The resources varied in the level of detail for each qualification, with some providing specific information about ratings, weighting of categories, and sources of evidence used to identify certain qualities of the candidate. In addition, while most resources were used to evaluate all available information about the candidate,

in one instance, a separate applicant screening tool and different interview questions were used (see Oregon State University, College of Education, Community College, Leadership/Leadership in Higher Education graduate program).

While many of these resources indeed provided a rubric, a few (*e.g.*, Scheer-Cohen, *et al.* 2022) provided more of a narrative description of the desired qualities of candidates and information about the procedures for selecting candidates. Other resources provided both examples of the types of tools used during the HAP, as well as fairly detailed information about the procedure, along with some evidence of the efficacy of the procedure in achieving specified objectives for recruiting a talented and diverse pool of applicants or diversifying the incoming class (Wilson, *et al.* 2018, 2019).

Nearly all criteria fit within the four domains described previously (experiences, attributes, academic metrics, and DEI). Consistent with the findings of study one, some of the most frequently reported types of *experiences* of desired candidates included those related to research. In addition, professional or volunteer experience in leadership roles also appeared to emerge across multiple tools. Early experience in conducting research or otherwise being involved in and learning from the research process has long been linked with positive graduate degree outcomes across a variety of disciplines (Linn, *et al.* 2015; Seymour, *et al.* 2004). Similarly, leadership experience has also been linked with academic success among undergraduate students (Young, *et al.* 2019), though leadership may also be valued as a reflection of a candidate's potential to be influential. Emphasis on the type of experience appeared to vary to some degree based on the type of program. For example, non-licensure, research-intensive graduate programs identified research experience as a critical component, while one educational leadership graduate program emphasized relevant professional experience. In several instances, the criteria for evaluating candidate experiences were often of a more general nature, referring to the types of experiences (*e.g.*, professional/work, research, volunteer/etc.) or attributes (*e.g.*, motivation, persistence, problem-solving, etc.) of desired candidates.

Regarding commonly occurring *attributes*, qualities such as motivation, perseverance, and resilience appeared multiple times. Qualities such as academic motivation have been linked with positive outcomes including GPA and retention among a sample of undergraduate students (Robbins, *et al.* 2004). As with the findings related to desired candidate experiences, there also appeared to be some disciplinary differences in the types of attributes of desired candidates. For example, Jung, *et al.* (2022) describes desirable attributes of applicants to a nursing program, grounding such an emphasis in existing literature (see Witzburg and Sondheimer 2013). Attributes referenced tended to include emotional resilience, empathy, interpersonal skills, curiosity and engagement, advocacy, and ethical comportment, among other qualities. By contrast, for a resource developed for a research-intensive geoscience graduate degree program, qualities such as perseverance, independence, curiosity, ability to work in teams, and maturity were specifically identified as attributes of desired candidates.

Some criteria that appeared to initially reflect candidate attributes could arguably overlap with multiple EAM+D domains. For example, in several instances criteria that could loosely be described as evidence of “institution/program-applicant fit” appeared to refer to both domains of experiences and attributes. As such, Table 1 (on page 69) shows such criteria in a cell reflecting both categories. In some instances, specific communication skills were noted, and these were categorized as a specific dimension of the candidate’s attributes. Between programs and institutions, there was some variation in the types of communication skills that were emphasized. For example, interpersonal communication skills were emphasized for a baccalaureate nursing degree program at one institution (Jung, *et al.* 2022), while written communication skills appeared to be specifically emphasized at a different institution’s master’s in nursing program (Rosenberg 2019).

Discussion

Developing a plan for holistic admissions for a program, college, or university requires a consideration of

the various ways to achieve a fair set of criteria and procedures to identify well-prepared students who are likely to thrive, while emphasizing diversity and equity among incoming students. The present investigation sought to identify commonly mentioned applicant criteria for graduate degree admissions in relation to the dimensions of the EAM+D framework of holistic admissions (study one). The authors subsequently wanted to understand the types of procedures and tools used to implement holistic admissions at the graduate or professional program level (study two). The specific criteria and procedures are likely to vary extensively between institutions, yet this review suggests several common elements and provides examples of rubrics used to support such procedures.

Based on this review, it appears that the admissions committees of the included institutions tend to consider dimensions of the applicant aligned with the EAM+D framework. For the graduate programs reviewed, certain types of characteristics appeared to emerge relatively frequently. Though not all institutions required standardized test scores, nearly all required some form of evidence of academic metrics, such as grades or GPA, or may have in fact required test scores. Even in a holistic admissions process, academic metrics are important, but they are not the sole determining factor in the admissions decision-making process. With respect to candidates’ experiences, evidence of research or relevant professional activities were the most highly valued.

Attributes such as communication skills also appeared to be highly regarded, particularly in fields that place an emphasis on writing and publications. Several institutions appeared to have systems for quantifying candidate attributes. For example, one resource specifically referred to a “personal index” derived from a set of evidence to produce a score reflecting certain ideal candidate attributes. Currently, there are standardized measures of personal attributes thought to reflect the likelihood of success in programs in operational use. For example, the ETS Personal Potential Index measure has been found to have reasonable predictive validity relative to certain academic outcomes including overall graduate GPA (Kyllonen 2008). In addition, it has also

been shown to have positive implications for increasing diversity among admitted students over more traditional metrics such as undergraduate GPA and GRE test scores (Klieger, *et al.* 2022).

In a few cases, applicant characteristics overlapped with multiple categories (*e.g.*, attributes and experience, experiences, and academic metrics). Quite often, these characteristics spanned multiple dimensions of the EAM+D framework and also referenced the applicant's alignment or fit with the institution/program (*e.g.*, "alignment of goals with faculty expertise," "motivation and alignment to research program"). The present study does not explicitly address how the institutional values and mission might affect the implementation of HAPs. Further research should consider the ways institutions signal their values and mission to prospective students and how this affects applicant behaviors and intent to apply as well as the admissions decision-making process.

Unlike the original EAM framework, institutional priorities related to DEI were also considered in the present review and synthesis. For this reason, the authors refer to the framework used in the present review and synthesis as EAM+D. They found that relatively few institutions emphasized diversity, equity, and inclusion as an institutional priority on their admissions webpage or an adjacent linked page. Those institutions or programs that did include language reflecting such a priority often described placing an emphasis on recruiting and retaining applicants from historically marginalized or underserved communities. In one instance, a departmental webpage also included a statement committing to certain collective goals and actions to support DEI initiatives.

Implications

The study findings have several implications for practice, policy, and future research. In terms of practice, the study emphasizes the need for colleges and universities to develop a holistic admissions plan that considers a fair set of criteria and procedures to identify well-prepared students while promoting diversity and equity. Institutions should consider various dimensions of applicants' qualifications and experiences, such as academic metrics (grades, GPA, and test scores), research/

professional experiences, communication skills, and alignment with the institution/program. At the graduate admissions level in particular, this may necessitate a deep consideration of the requisite values, skills, and the application of methods for knowledge discovery within a specific discipline or profession. As noted previously, academic metrics should not be the sole determining factor in admissions decision-making processes that purport to use holistic approaches.

Many colleges and universities have adopted a holistic admissions approach to promote greater diversity, equity, and inclusion in campus life, particularly by recruiting and retaining students from historically-marginalized or underserved communities (Bastedo, *et al.* 2018; Kent and McCarthy 2016). Institutions with such priorities should articulate how the admissions procedures strive toward supporting such students. At the time of writing this article, and particularly in light of recent decisions of the Supreme Court of the United States (Thomason and Brown 2023), the authors recognize that this may be challenging for institutions attempting to maintain integrity and transparency in the admissions decision-making process while not making an institution more susceptible to litigation. In an ideal world, such efforts could provide greater clarity and understanding among admissions decision-makers about what constitutes a holistic admissions process and its impact.

With respect to future research opportunities, there are several gaps and areas for further inquiry. First, there is a need to explore how institutional values and mission affect the implementation of holistic admissions plans. Understanding how institutions signal their values and mission to prospective students, and how this influences applicants' behaviors and the admissions decision-making process would provide valuable insights (*e.g.*, Bennett 2022). Second, there is a lack of emphasis on gathering evidence to assess whether holistic admissions plans are achieving their goals, particularly in attracting a diverse and successful student body. With some exceptions (*e.g.*, Wilson, *et al.* 2019), we found that there was an overall absence of effort toward gathering evidence of whether HAPs were achieving the goal of attracting a diverse and successful student body. Future

research should focus on evaluating the effectiveness and outcomes of holistic admissions practices. Lastly, colleges and universities could benefit from more concrete guidance in developing holistic admissions procedures. Future research should continue to provide resources and best practices to support institutions in creating fair and equitable admissions processes. These are all issues that need to be continuously addressed as HAPs are refined based on the institution's priorities and the ever-changing landscape of admissions and enrollment management in higher education.

From this review, the authors identified several resources available to support colleges and universities in developing their own holistic admissions process. The Association of American Medical Colleges (AAMC 2022) provides support in identifying important factors in the admissions process. The organization has also created a transcript activity template to help admissions

committees evaluate non-academic factors. Additionally, the Graduate Record Examinations (GRE) has created a scorecard to help institutions evaluate the effectiveness of their holistic admissions processes (ETS 2023). Oregon State University (2021) has created a holistic admissions guide that offers strategies and best practices.

Conclusion

These findings highlight the importance of considering multiple dimensions of applicants' qualifications, experiences, and alignment with institutional values in holistic admissions processes. Incorporating DEI priorities and continuously evaluating the effectiveness of holistic admissions plans can contribute to creating a more diverse and successful student body. Additionally, resources and guidance should be made available to support institutions in developing and refining their holistic admissions procedures.

Appendix

TABLE 1 ► Examples of EAM+D Criteria From Graduate Program Admissions Websites

#	Criteria and/or Sources of Evidence, by EAM+D Dimension
Experiences	
1	Letter of intent that describes your educational philosophy and your interest in and expectations from our program. Include past professional experience, research interests, and future goals.
2	The school also considers the background, trajectory, and research interests of the applicant and the content of the program and interests of the faculty. We seek students who match well with the program Areas and to faculty research interests.
3	Research potential is reflected in responses to a number of aspects of the application. These include: ► Awards, scholarships, and co-curricular activities ► Volunteer activities ► Work experiences ► Letters of recommendations from research mentors ► Participation in undergraduate research programs such as the Big Ten Academic Alliance (BTAA) Summer Research Opportunity Program (SROP), Maximizing Access to Research Careers (MARC), TRIO McNair Scholars Program, and other undergraduate research programs
4	The statement should explain why you are the right fit for the program, a worthwhile applicant, actions, and strategies that you will incorporate to be successful in your graduate school journey. This is your best opportunity to highlight important factors that may not be readily available in the rest of your application. Please answer the following questions in your personal statement: ► What is special, distinctive, unique, or impressive about you or your life story? ► How did you learn about the field? What stimulated your interest in this field? ► [...]

TABLE 1 ► Examples of EAM+D Criteria From Graduate Program Admissions Websites

#	Criteria and/or Sources of Evidence, by EAM+D Dimension	
Attributes		
1	▶ An ability to think logically and conceptually and to formulate mature judgments. ▶ Excellent writing and verbal communication skills. ▶ Knowledge of the field and evidence of a commitment to social work as a profession.	▶ Evidence of emotional maturity, concern for people, and capacity for self-awareness and personal growth. ▶ Demonstrated concern and commitment to the values underlying professional social work. ▶ Values social justice, diversity, and inclusion.
2	Standards for admission are high. Applicants are expected to possess high character, aptitude, integrity and motivation suitable for a career in medicine. Other personal attributes considered include strong communication skills, extracurricular accomplishments and a balanced lifestyle, including hobbies and recreational interests. [...] Letters should provide an in-depth evaluation of the applicant's accomplishments, skills, talents and character, rather than mere recapitulations of academic achievements or course grade(s).	
3	The Admissions Committee has established policies that include the selection of applicants best qualified to serve the public and the profession in the years to come. Many factors are considered in selecting students for our program, including: ▶ academic performance ▶ motivation ▶ essays	▶ letters of evaluation ▶ communication skills, including a demonstrated command of the English language, both written and oral
4	▶ Persistence and commitment ▶ Indices of leadership ▶ [...] ▶ Special talents or skills	▶ Personal and professional ethics ▶ Learning differences ▶ Educational, cultural and geographic background
Academic Metrics		
1	The minimum requirements are: a bachelor's degree (based on a four-year curriculum) completed before graduate study begins or its international equivalent with an accredited institution, [...], an average grade of B (cumulative GPA 3.0) or better.	
2	Although requirements vary by program, regular admission typically requires a minimum cumulative grade point average of 3.0 (B) for undergraduate work. The average for any graduate work must be at least 3.0. Applicants for post-master's status must show potential for further study by having maintained at least a 3.0 average in their master's-level studies. (Individual departmental requirements may exceed these minimums.)	
3	A baccalaureate degree from an accredited college or university. Applicants should have a broad liberal arts background that includes study in the social, behavioral, and biological sciences with a minimum of 60 liberal arts credits. Course work relating to diverse cultures, social conditions, and social problems is favorably considered. Academic credit is not given for life experience in lieu of field education or course requirements. The GRE is NOT required.[...] A strong academic record and demonstrated intellectual capacity for graduate education.	
4	Complete admissions prerequisites at the college level with a grade of 'C-' or better and a minimum of 90 semester hours or 135 quarter hours of credit from an accredited undergraduate college or university. It is recommended that students with less than a 2.8 grade point average should consult the Office of Admissions prior to applying.	
Institutional DEI Priorities		
1	The program is open to all applicants regardless of race, gender, ethnic or national origin, religion or age. Individuals from demographic groups that are underrepresented among professional scientists are especially encouraged to apply.	
2	We are committed to supporting an inclusive, diverse community of students, faculty, and administrators, one in which students can thrive during their education journey, rather than just survive the process. Through our many programs and resources, we address the importance of nurturing communities across our university filled with a wide range of perspectives.	

TABLE 1 ► Examples of EAM+D Criteria From Graduate Program Admissions Websites

#	Criteria and/or Sources of Evidence, by EAM+D Dimension
	A Statement from the Office of Admissions
3	The Office of Admissions at [...] stands in solidarity with our Black students, staff, faculty, administrators, colleagues, friends, and families. We believe that Black Lives Matter. As educators, we acknowledge the challenges faced by students of color in academia and we will work to uplift the voices and needs of our Black students so they may feel safe and welcomed at the University. We will continue to be a resource and build relationships and partnerships with community-based organizations that work to provide college access to Black students. We commit to continue to educate ourselves, to advocate for justice, and work against racism and systems of oppression at our institution, in our communities, and in our country.
4	[...] is committed to creating a community that reflects the rich racial, cultural, and ethnic diversity of the State of [...] and the United States of America. The greatest challenge in higher education is to enroll students and hire faculty and staff who are members of diverse racial, cultural, or ethnic minority groups. This pluralism enriches the University community, offers opportunity for robust academic dialogue, and contributes to better teaching and research. The University and its components benefit from the richness of a multicultural student body, faculty, and staff who can learn from one another. Such diversity empowers and inspires respect and understanding among us. The University does not tolerate the actions of anyone who violates the rights of another. By policy and practice, the University embodies a diverse community. Our collective efforts lead to a university that is truly diverse and a University that reflects the U.S. population.

TABLE 2 ► Summary of HAP Resources Identified and Alignment to EAM+D Framework

Dimension	Criteria and/or Evidence Used to Evaluate Applicant	
California State University, Fullerton Nursing (second baccalaureate) Jung, et al. 2022		
Experiences	▶ Community service component (rated on the type of service and number of volunteer hours) ▶ Applicants' background and life experiences (readiness and ability to contribute to the nursing profession)	▶ Life experiences with caring for others ▶ Role of nurse and applicant career alignment¹
Attributes	▶ Persistence ▶ Ability to work within "grey areas" ▶ Open-mindedness ▶ Consideration of complexity ▶ Ability to complete tasks ▶ Attention to detail with a humanistic focus align. ▶ Ethics	▶ Advocacy ▶ Resilience in overcoming challenges ▶ Local residency Communication skills: ▶ Excellent communication skills (emphasis on interpersonal communication skills)
Academic Metrics	▶ High school grades and grade trends throughout the applicant's high school years (students showing GPA improvement over their four years of high school receive extra points)	▶ Incoming cumulative baccalaureate GPA and GPAs for nursing prerequisite science courses ▶ Completion of biology by the end of applicant's junior high school year ▶ ACT/SAT scores
DEI	▶ Demographics	
Scoring Procedures	▶ Point-based system where discrete points are assigned to certain criteria	▶ Specific information about how points assigned not provided

¹ This item/list of items apply to Experience and/or Attributes.

TABLE 2 ► Summary of HAP Resources Identified and Alignment to EAM+D Framework

Dimension	Criteria and/or Evidence Used to Evaluate Applicant	
Michigan State University Physics Ph.D. Young, et al. 2021		
Experiences	▶ Research experience (25%) ↳ Variety and duration, quality of work ↳ Technical skills ↳ Research disposition	
Attributes	▶ Non-cognitive competencies (25%) ↳ Achievement orientation ↳ Conscientiousness ↳ Initiative ↳ Perseverance	▶ Fit with program (15%) ↳ Fit with research programs of the department ↳ Fit to research programs of specific faculty ↳ (Prior) commitment to participation in the department/school community ↳ Advocacy for and/or contributions to a diverse, equitable ↳ Inclusive physics community
Academic Metrics	▶ Academic Preparation (25%) ↳ Physics coursework ↳ Math coursework ↳ Other coursework ↳ Academic recognition and honors	▶ GRE scores (10%) ↳ General GRE scores ↳ Physics GRE scores
DEI	▶ No direct mention	
Scoring Procedures	▶ Rubric criteria are weighted; Percent weights are shown next to criteria	
Rush University, College of Nursing Nursing (Master’s) Rosenberg 2019		
Experiences	▶ Active military or Veteran ▶ Leadership roles ▶ Health care/community service experience	▶ Cocurricular involvement ▶ Languages skills (Fluent or proficient in a second language)¹
Attributes	▶ Perseverance or “distance travelled” ▶ Professional attributes, (i.e., integrity)	▶ Communication skills ↳ Written communication
Academic Metrics	▶ Grade trends (consistent high performance in years 1 to 4 of college) ▶ Prerequisite GPA ▶ 3.5 or greater ▶ Prerequisite course GPA ▶ Science GPA	▶ Cumulative GPA ▶ Science hours ▶ Graduate record examinations (scores or waived) ▶ Graduate degree
DEI	▶ Focus on underserved populations ▶ Significant previous work or community service experience with underserved populations and indicates desire to continue working with these populations	▶ Underrepresented in nursing

¹ This item/list of items apply to Experience and/or Attributes.

TABLE 2 ► Summary of HAP Resources Identified and Alignment to EAM+D Framework

Dimension	Criteria and/or Evidence Used to Evaluate Applicant	
Scoring Procedures	▶ Certain items are automatically scored (prerequisite course GPA, science GPA, cumulative GPA, science hours, GRE scores) ▶ Certain items manually scored (URM status, graduate degree, military/veteran status, perseverance, language skills, health care experience, focus on underserved populations, written communication, co-curricular involvement, professional attributes, grade trends)	▶ Criteria evaluated based on the degree to which standards are met with anchor descriptors
Oregon State University College of Veterinary Medicine, Doctor of Veterinary Medicine (DVM) Program		
Experiences	▶ Work load (0-3) ▶ Volunteer/extracurricular load (0-3) ▶ Research experience (Yes/no and describe)	▶ Additional animal experience (0-3 and comments) ▶ Veterinary medicine experience (0-3 and comments) ▶ Personal statements and supplemental essays (0-3)¹
Attributes	▶ See "Communications skills;" otherwise, no direct mention	▶ Communication skills ↳ Writing skills
Academic Metrics	▶ Academic load (0-3) ▶ Rater's confidence in applicant's academic potential	
DEI	▶ Demonstration of commitment to diversity and inclusion ▶ Contribution to diversity of student body	
Scoring Procedures	▶ Applicant screening tool	▶ Ratings ranged on a 4-point scale from "Exceptional potential" to "Unqualified" with the option to provide comments
Oregon State University College of Education, Community College Leadership/Leadership in Higher Education (CCL/LHE) Graduate Program		
Experiences	▶ Prior work experience that will allow the applicant to benefit from the program in a reasonable timeframe ▶ At least three years of successful professional experience appropriate for the applicant's career aspirations ▶ Potential evidence: resume, statement of experiences, goals, and philosophy; reflection paper; letter(s) of recommendation See note¹ ▶ Career aspirations/goals following completion of the Ed.D./Ph.D. focus on assuming a leadership role in a community college/four-year college or university	▶ Aspiration to assume a faculty or administrative leadership position in a college or university; professional experiences indicate an interest in and commitment to education ▶ Potential evidence: Statement of experiences, goals, and philosophy; reflection paper; letter(s) of recommendation; publications ▶ Applicant has knowledge of issues facing higher education. Potential evidence: statement of experiences, goals, and philosophy; reflection paper; resume; letter(s) of recommendation; transcripts ▶ Applicant will be able to enhance and enrich the experience of other cohort members. Potential evidence: evidence for criteria 2 and 3; statement of experiences, goals, and philosophy; interview

¹ This item/list of items apply to Experience and/or Attributes.

TABLE 2 ► Summary of HAP Resources Identified and Alignment to EAM+D Framework

Dimension	Criteria and/or Evidence Used to Evaluate Applicant	
Attributes	▶ Applicant has knowledge of the teaching and learning process ▶ Potential evidence: statement of experiences, goals, and philosophy; reflection paper; resume; transcripts; letter(s) of recommendation	▶ Communication skills ↳ Ability to communicate orally and in writing which demonstrates that the applicant will benefit from the program, including the writing of the doctoral dissertation ↳ Potential evidence: summary of experiences, goals, and philosophy; reflection paper; transcript(s) of undergraduate grades; professional writing including thesis and journal articles; GRE verbal score; for international students a minimum 575 combined TOEFL score and 4 TWE score; interview
Academic Metrics	▶ Prior educational achievement allows applicant to benefit from the program within a reasonable period ▶ At least 33 quarter credits of graduate course work appropriate for your career aspirations; minimum combined GPA of 3.0 (A=4.0) for the last 90 quarter credit hours of graded undergraduate course work for the first baccalaureate degree plus all work completed thereafter	▶ Potential evidence: transcript(s) or grades for both undergraduate and graduate preparation; GRE verbal, quantitative, and analytic scores; letter(s) of recommendation; statement of experiences, goals, and philosophy; reflection paper
DEI	▶ Applicant has knowledge of social justice issues facing colleges and universities	▶ Potential evidence: statement of experiences, goals, and philosophy; interview
Scoring Procedures	▶ Applicant interview questions	▶ Like the applicant screening tool, ratings ranged on a 4-point scale from "Exceptional Potential" to "Unqualified" with the option to provide comments
Umass-Amherst Geosciences Graduate Program <i>Cooke, et al. 2022</i>		
Experiences	▶ No direct mention ▶ Motivation and alignment to research program¹	
Attributes	▶ Perseverance ▶ Independence ▶ Curiosity ▶ Ability to work in teams ▶ Maturity	▶ Communication skills ↳ Communication skills (written and oral)
Academic Metrics	▶ No direct mention	
DEI	▶ No direct mention	
Scoring Procedures	▶ Ratings to each criteria provided on a 1-3 scale	

¹ This item/list of items apply to Experience and/or Attributes.

TABLE 2 ► Summary of HAP Resources Identified and Alignment to EAM+D Framework

Dimension	Criteria and/or Evidence Used to Evaluate Applicant	
University of California, Santa Barbara Political Science Ph.D. Stoll and Bimber 2022		
Experiences	▶ Relevant research experience	▶ Leadership/outreach activities
Attributes	▶ Perseverance	▶ Self-knowledge
Academic Metrics	▶ Academic	▶ Preparation
DEI	▶ Criteria for leadership/outreach activities specifically mention DEI	

Scoring Procedures	▶ Ratings ranged between low, medium, and high with specific criteria set for each level	
University of Texas MD Anderson Cancer Center UTHealth GSB Various Biomedical Sciences Master's and Ph.D. Wilson, et al. 2018, 2019		
Experiences	▶ Quality and duration of research experience ▶ Achievement (e.g., presentations, publications, meeting attendance) ▶ Description of research training experience	▶ Quality (and quantity) of experience ▶ Non-academic responsibilities (e.g., employment)
Attributes	▶ Defined career objectives	▶ Communication skills ↳ Ability to communicate accomplishments effectively
Academic Metrics	▶ Trends in academic performance (improving, declining, maintaining high level) ▶ Honors and awards ▶ Achievement in science-related coursework, e.g., content, amount, grades, level of instruction (higher level undergrad, grad)	▶ Whether barriers were present to obtaining quality education, how these were overcome ▶ Performance on GRE (and English language proficiency exams for international applicants)
DEI	▶ Race, ethnicity and socio-economic status to the extent that it may have disadvantaged the applicant	

Scoring Procedures	▶ Factors are considered as a whole, without any formula or distribution of weight, to determine whether an applicant is offered an in-person interview	
University of Virginia Engineering Ph.D. Barker and Clobes (2021) – First Iteration		
Experiences	▶ Quantity of prior research experience in academic and beyond ▶ Quality of prior research experience in academic and beyond	See note ¹ ▶ Research potential and vision ▶ Research goals and interests in solving real interests in solving real world problems, ▶ Alignment with program ▶ Potential for leadership and potential for leadership and engagement (also found in CV and letters of eval) ▶ Evidence of passion for research

¹ This item/list of items apply to Experience and/or Attributes.

TABLE 2 ► Summary of HAP Resources Identified and Alignment to EAM+D Framework

Dimension	Criteria and/or Evidence Used to Evaluate Applicant	
Attributes	▶ Motivation ▶ Persistence ▶ Character ▶ Ability to overcome obstacles (also found on letters of eval)	▶ Communication skills ↳ Writing ability
Academic Metrics	▶ Academic preparation for discipline, or the potential to take preparation courses (use of transcripts needed to evaluate this criteria)	▶ GPA ▶ GRE
DEI	▶ No direct mention	
Scoring Procedures	▶ Scores ranged between 1-4, with higher scores reflecting qualifications of a desired applicant.	
University of Virginia Engineering Ph.D. Barker and Clobes (2021) – Second Iteration		
Experiences	▶ Demonstrated prior research experience in academia or beyond	See note¹ ▶ Research goals and interest in solving real interest in solving real world problems ▶ Potential for future research ▶ Potential for leadership & engagement in academic and beyond ▶ Research potential and vision ▶ Alignment of goals with faculty expertise
Attributes	▶ Motivation ▶ Ability to overcome obstacles	▶ Enthusiasm or commitment to research
Academic Metrics	▶ Academic preparation for discipline, or the potential to take preparatory courses ▶ GPA in major	▶ GPA progression
DEI	▶ No direct mention	
Scoring Procedures	▶ Scores ranged between 1-3, with higher scores reflecting qualifications of a desired applicant. The revised version of the rubric included fewer criteria and had a list of sources of evidence for each criteria.	
California State University, San Marcos Speech-Language Pathologist M.S. Scheer-Cohen et al. 2022		
Experiences	▶ Volunteer experience ▶ Leadership experience ▶ Work experience	▶ Noncognitive variables include: ↳ Successful leadership relevant to the person's background ↳ Demonstrated community service ▶ Ability to speak a second language¹

¹ This item/list of items apply to Experience and/or Attributes.

TABLE 2 ► Summary of HAP Resources Identified and Alignment to EAM+D Framework

Dimension	Criteria and/or Evidence Used to Evaluate Applicant	
Attributes	► Problem-solving skills ► “Soft skills” ► Motor skills ► Behavioral skills ► Social skills	► Communication skills ↳ Communication abilities
Academic Metrics	► Cumulative GPA (minimum of 3.0)	► Major (SLP) GPA (minimum of 3.0)
DEI	► Emphasis on knowledge of a second language, but otherwise, no specific DEI criteria	
Scoring Procedures	► No rubric provided but the article outlines specific criteria and sources of evidence of each	► For example, before passing applicants on for further review and evaluation, applicants must meet minimum requirements (major GPA of 3.0 and a minimum grade of B in a number of foundational CSD courses)
Salus University Audiology (online material)		
Experiences	► See note¹ ► Personal Index (P.I.) evaluates the candidate’s ↳ Acceptability from a personal standpoint (difficult to quantify; derived from letters of recommendation, essays and extracurricular activities)	
Attributes	► Interview Index (I.I.): Evaluates the candidate’s ↳ Knowledge ↳ Interest and motivation about the profession	► Communication skills ↳ Professional communication skills
Academic Metrics	► Academic Index: Criteria consists of ↳ GPA (specifically prerequisite, audiology/science and overall), ↳ Major ↳ college or university attended ↳ Number of college credits completed ↳ Degree status ↳ GRE scores	
DEI	No direct mention	
Scoring Procedures	The document refers to specific indices but does not provide concrete information about how these indices are calculated	

¹ This item/list of items apply to Experience and/or Attributes.

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About the Authors



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Teresa M. Ober, Ph.D., is an Associate Research Scientist at ETS. She received a

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ment, Dr. Oluwalana has a strong foundation in educational assessment. Her dedication to ensuring fairness and equity in assessment aligns with her commitment to advancing the field.



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