Faculty participation in Open Access Repositories (OARs) based on their individual traits.

Abstract

Purpose. The number of open access repositories has been growing globally but faculty members have been reluctant to embrace OAR and submit their work. While there are studies that looked at socio-technical factors that affect faculty participation in OARs, this study aims to explore how the individual characteristics of faculty might impact faculty willingness to deposit their work in an OAR. **Design/methodology/approach**. The survey was distributed to all faculty at a large public university in the United States who were identified as having their primary job responsibilities in teaching and research. The study employed a correlational analysis between faculty individual characteristics (i.e., age, rank, status, and academic discipline) and their willingness to deposit their work. **Findings**. Show there is a difference in faculty familiarity with OA principles and faculty awareness of OA policy based on individual characteristics. Furthermore, these individual characteristics have a significant impact on faculty willingness to participate in OARs. While the study reveals a significant correlation between the faculty intent to deposit and the respondent's academic discipline, rank, and status there are other factors that affect faculty intent to participate in OAR, such as familiarity with OA principles and awareness of institution's OA Policy. **Originality/value**. The study reveals that individual faculty traits do have an impact on faculty willingness to participate in OARs. The academic discipline was found to make the most significant difference in faculty intent to deposit their work in an OAR. However, due to the ever-changing landscape of OA publishing and the ongoing outreach efforts by librarians the faculty members' perception and participation in OARs is likely to evolve.

INTRODUCTION

Significance

Academic libraries play an important role in facilitating the scholarly communication process and transforming the publication process. Both the development of open access (OA) journals and open access repositories (OARs) have made libraries key stakeholders in the debate of the future of scholarly communication (Willinsky, 2006). OARs offer an open access platform for faculty to publish without fees and an easy submission process of scholarly work that encourages cross-campus collaboration, long-term digital storage, and wider dissemination of their work. OARs can include institutional repositories as well as discipline-specific publishing repositories. However, despite all the benefits described by the proponents of OA, the fact remains that many faculty have been reluctant to embrace OARs. There is insufficient evidence on how individual characteristics of faculty might impact their willingness to embrace OA publishing in general, and OARs in particular. The findings from this research will be a valuable source of information for librarians and OA staff in developing more effective outreach programs to increase faculty participation in OA.

Research statement

According to a survey of the Association of Research Libraries (ARL) members, while most faculty are in theory supportive of the principles of OA, they are reluctant to submit their work to the university OAR due to many perceived difficulties. Thus, it is important to investigate faculty attitudes and practices toward open access publishing for the advancement of

the OA movement. In addition to socio-technological factors that influence participation in OARS (Kim, 2011; Tmava & Miksa, 2017), faculty reluctance towards OA can come from individual traits as found by Allen (2005). Individual traits (i.e., faculty age, rank, status, and academic discipline) remain an important factor that can affect faculty participation in OAR (Fitzgerald and Jiang, 2020). According to Casey (2012) faculty in the sciences contribute at a higher degree than do those in the social sciences and humanities. Schonfeld and Houseright, (2010) found fewer than 10% of faculty in departments of literature deposited in OARs, compared to more than 20% of those in economics departments and more than 40% of physics professors. Ten years later, Robinson-Garcia *et al.* (2020) continue to find similar publishing results with biomedical and health sciences publishing in OA at the highest level and social sciences and humanities lagging in OA publishing. The current study seeks to investigate the influence of faculty age, rank, status, and academic discipline on their awareness of OA principles, university OA policies, and intent to deposit work into an OAR. The study will look at the correlation of these individual traits and intent to deposit. Results from this study will provide librarians with insight that can help them develop more effective targeted outreach initiatives.

Research Question

RQ 1 How does familiarity with Open Access (OA) and OA policy affect faculty intent to participate in OAR based on faculty age, rank and status and academic discipline?

LITERATURE REVIEW

OA Principles

Open access (OA) is widely defined as free access to research and scholarly articles on the internet with correct copyright and citation given to the authors. Three OA declarations in the 2000s helped define OA principles for the OA movement and provide direction for institutions to encourage publishing with OA platforms. The 2002 Budapest Open Access Initiative recommends that scholars self-archive in OA repositories and submit to online OA journals. The 2003 Bethesda Statement on Open Access Publishing defined the principles of OA and the benefits it can provide for authors and readers. The 2003 Berlin Declaration of Open Access recommends that institutions create policies that require researchers to deposit their work in OARs, as well as providing encouragement and support to researchers publishing in OA journals. According to OpenDOAR (Jisc, n.d.), open access repositories have grown from 78 in 2005 to 5,906 in 2022 (https://v2.sherpa.ac.uk/view/repository_visualisations/1.html). Universities have contributed to the open access movement by adopting OA mandates and policies requiring researchers to publish their work in OA journals and/or deposit work in OARs (Mering, 2020). ROARMAP (University of Southampton, n.d.) lists 959 universities, research institutions and departments with OA mandates and policies.

Faculty Age, Rank and Status

Nicholas *et al.* (2020) use the term Early Career Researchers for those typically not over age 35, have earned or are working on their doctorate, and in non-tenured positions. Nicholas *et*

al. (2020) also referenced early career researchers as holding change, transparency, and sharing as millennial generational values. Dalton *et al.* (2020) found that PhD students rated OA highly and may be more willing to publish in OAR to establish their academic identity. There are indications that PhD students (Dalton *et al.*, 2020; Doro, 2021) and millennials (Nicholas *et al.*, 2020) could begin to publish more in OA based on their positive perceptions of OA.

Early career researchers can hold a more positive view of OA than their tenured colleagues who have established reputations in subscription-based publishing (Dalton *et al.*, 2020; Severin *et al.*, 2018). Established academics who have been publishing for decades can perpetuate traditional views of needing to publish in well-known, subscription-based journals (O'Hanlon, 2020: Nicholas *et al.*, 2020). Negative perceptions of OA publishing include lack of quality, lower quality research, and even perceiving the purpose of OARs as a branding goal for the university (Doro, 2021).

In contrast, Ithaka (2022) found that older faculty place higher importance on publishing OA than younger faculty and are more willing to publish OA themselves because they have already earned their publishing scholarly identity. Zhu (2017) found older and senior ranking respondents had published more in OA than their younger counterparts. Frederiksson's (2020) survey found young researchers agreed with OA on principle, but senior scholars had a higher degree of OA awareness and knowledge.

Beyond attitudes, or perceived attitudes, of OA among faculty, there are career promotion systems that prevent wider acceptance of OA publishing practice (Frederiksson, 2020; Ithaka S+R, 2022; O'Hanlon *et al.*, 2020). Early career researchers find more advantages than disadvantages in OA publishing (Dalton *et al.*, 2020; Nicholas *et al.*, 2020) but make publishing choices based on what they perceive is the criteria for advancement (Ithaka, 2020). Niles *et al.* (2020) indicates a discrepancy between what younger respondents thought their peers valued for review, promotion, and tenure and what tenured respondents actually valued. A study by Peekhaus (2019) found only 34% of LIS survey participants agreed that their institution's tenure and promotion systems were keeping up with the evolution of scholarly communication. For institutions promoting OA with policies and OARs, it would make sense for their departments to consider tracking repository deposits and impact as partial indicators for career advancement. Doro (2021) found 76% of participants would be more likely to use their institutional OA repository "if tenure consideration were strengthened based on high amounts of views/downloads from an IR… (p. 18)." For tenure-track authors, reaching stakeholders who are evaluating their promotion is a more urgent matter than making their work publicly accessible (Doro, 2021).

Academic Disciplines

Robinson-Garcia *et al.* (2020) analyzed OA publishing of universities worldwide and found the highest median of OA publication in the biomedical and health sciences at 49.1%. Odell *et al.* (2017) note that since the adoption of the 2008 U.S. National Institutes of Health Public Access Policy, open access journals in the health sciences have proliferated. Faculty surveyed largely supported public access to their scholarship and held strong beliefs in the benefits of open access publishing to fellow academics in their field. Dalton *et al.* (2020) found pro-OA groups in their study indicated a desire to have articles available to non-scholarly

audiences, specifically in populations more likely to search for open access such as policy makers, practitioners, and the public.

The medical field has well established OA journals, such as PLOS and BioMedCentral, and provides funding that facilitates OA publishing (Severin *et al.*, 2018). It is important to note that science, technology, engineering, and math (STEM) fields publish more OA, have a greater number of OA repositories and journals where authors can publish, and receive grants from external funding bodies that require OA participation (Dalton *et al.*, 2020; Li *et al.*, n.d; Mering, 2020). Dalton *et al.* (2020) found published authors in the fields of life sciences, medicine, physical sciences, engineering, and computer science to have a favorable opinion of OA publishing.

Robinson-Garcia *et al.* (2020) found the lowest median of OA publication in the social sciences and humanities at 36.5%. Lack of OA publishing likely stems from the scholarly communication structure in the humanities disciplines (Severin *et al.*, 2018) and focused attention on monograph or book chapter publication over periodicals (Dalton *et al.*, 2020; Frederiksson, 2020). While monographs are available in electronic versions, the humanities discipline still rates print monographs higher than electronic versions in their research (Ithaka, 2020). In terms of in-progress work, humanities predominately share their progress with conference presentations and direct communication, with little in-progress work being shared in institutional or dataset repositories (Fenton, 2020).

Social sciences, arts, and humanities are less likely to receive funding for OA journal submissions (Li *et al.*, n.d.). Humanities publication lacks the large funding bodies as well as discipline and institutional initiatives guiding humanities departments toward OA (Dalton *et al.* 2020). Non-OA supporters, mostly disciplines in art and humanities, would need a shift in funding with grant money for positive attitudes toward OA publishing to increase (Dalton *et al.*, 2020). At UC Berkeley, where there are OA initiatives, funding, and knowledge of OA publishing, disciplinary publishing practice differences remain. UC Berkeley Life and Health Sciences, Engineering and Physical Sciences received external OA funding for 86% of the faculty, while Social Sciences 45%, and Arts and Humanities received 22% external funding for faculty (Li *et al.*, n.d.).

Fry *et al.* (2016) name physics, economics, and clinical medicine as OA-friendly disciplines specifically through repository depositing. Analyses of these disciplines show they were poised for easier OAR adoption based on pre-OA sharing patterns of academic work and awareness of available subject-based repositories. Dalton, *et al.* (2020) and Peekhaus (2019) noted that physics and life sciences have a longer history of engaging in OAR depositing. Fry *et al.* (2016) make note that physics, economics, and clinical medicine adopted OAR faster than researchers outside OA-friendly disciplines because they had the infrastructure and publishing environment to do so. Severin *et al.* (2018) includes physics, mathematics, astronomy, and information technology as fields having a long history in sharing preprints and adopting repository depositing.

Background of UNT OA repository and outreach efforts

The University of North Texas (UNT) is a public academic institution that serves approximately 36,000 full and part-time students. The UNT was the first public institution in the state of Texas to implement an OA policy (Approved February 1, 2012). The UNT OA mandate was in the form of an administrative procedure that encouraged faculty to submit their work into the institutional repository but did not require them to make their publications open. Library staff has been active in promoting the university institutional repository, UNT Scholarly Works, since its launch. They provide a web presence on the university library website, university website, and university OA policy webpage. They have presented at several departmental meetings around campus, Faculty Senate meetings, and met with faculty to discuss UNT Scholarly Works and their services. The Scholarly Works staff sends a holiday email card to each department, with Scholarly Works content updates and a reminder to deposit work in the repository. The staff hold 2-3 campus events during the annual International Open Access week, and a data day event every semester to provide information about the university OAR. They also distribute UNT Scholarly Works brochures, post-it notes, and pens at meetings and events, and throughout campus. UNT's OA efforts can be seen as progressive in advocating and implementing OA communication and access. The adoption of UNT OA policy and the efforts UNT Scholarly Works staff were intended to increase faculty awareness and participation in OA repositories. Thus, this institution was deemed suitable for this quantitative research study designed to measure faculty awareness of OA and participation rates in OA repositories.

METHODOLOGY

This study hypothesizes that faculty awareness and perceptions of OA is correlated with faculty intent to participate (submit their work) in an open access repository. The predictor, faculty age, rank, status, and academic discipline were continuous variables, while the outcome (intent to deposit or not) was a dichotomous outcome variable (yes or no).

The first part of the study collected demographic data of age, academic field, faculty rank and status. The second part examined the overall faculty awareness of OA principles, the university OA policy, and willingness to submit their work to an OAR. The study employed a correlational analysis between faculty age, rank, status and academic discipline and their familiarity with OA principles and OA policy. This was followed by cross tabulation analysis to measure the correlation between faculty familiarity with the OA declarations, OA policy awareness, and intent to deposit based on the faculty individual characteristics.

RESULTS

The email invitation to participate in the survey was sent to all (1158) UNT faculty members. Out of the 1158, a total of 172 surveys were partially completed, and 138 were fully completed. Table I presents the percentage of respondents (faculty) from each college. For purposes of this study, disciplines are defined by the university's college organization.

Demographic characteristics of respondents

Table I shows respondents rate by age (N=138) with data evenly distributed. Most of the respondents (75 %) ages ranged from 41-70, with the highest response rate for age groups 41-50 with 25.4%, 51-60 with 27.2%, and 61-70 with 24%. There was good response from age groups 31-40 (16%) and over 70 (5%).

Table I

Participants by age

Age	Percent
Under 30	1.8%
31 to 40	16.3%
41 to 50	25.4%
51 to 60	27.2%
61 to 70	23.6%
Over 70	5.4%

Figure by authors

Table II shows participants by academic rank (N=138) and academic status (138). Thirty-three percent of faculty respondents identified themselves as *full professor,* and *Other*. They were followed by associate professor (23.9%), and assistant professor (9.6%). Regarding academic status, the largest group of faculty respondents identified themselves as tenured faculty (56.7%), then non-tenure track (34.1%), and tenure track (9.1%).

Table II

Participants by academic rank and status

Academic Rank	Percent
Professor (i.e. full, clinical, research)	33.5%
Associate Professor	23.9%
Assistant Professor	9.6%
Other (i.e. librarian, instructor, lecturer, adjunct)	32.9%
Tenured faculty	56.7%
Tenure track (but not yet tenured)	9.1%
Non-tenure track	34.1%

Figure by authors

Table III shows participants by academic field (N=138). The largest group of respondents identified themselves as College of Arts and Sciences (35.7%), followed by College of Public Affairs and Community Service (12.1%), College of Education (10.9%), Other (10.9%), College of Information (9.7%), College of Business (9%), and College of Engineering (6%). These data

reflect the respondents rate in proportion to the total number of participants. Worth noting is the College of Arts and Sciences has the largest number of departments and faculty (around 450 faculty).

Table III

Participants by academic field

Academic college/department	Percent
College of Arts and Sciences	35.7%
College of Business	9.0%
College of Education	10.9%
College of Engineering	6.0%
College of Information	9.7%
College of Merchandising, Hospitality and Tourism	1.8%
College of Music	4.8%
College of Public Affairs and Community Service	12.1%
College of Visual Arts and Design	1.8%
Other	10.9%

Figure by authors

Faculty familiarity with OA principles and university OA policy by academic discipline

The results in Table IV reveal the majority of faculty (62.5%) were not familiar with any of the three OA declarations.

Table IV

Familiarity with OA declarations

	Familiar with OA Declarations	
Academic Discipline	Yes	No
College of Arts and Sciences	35%	65%
College of Business	20%	80%
College of Education	30%	70%

College of Engineering	30%	70%
College of Information	75%	25%
College of Merchandising, Hospitality and Tourism	0%	100%
College of Music	12.5%	87.5%
College of Public Affairs and Community Service	35%	65%
College of Visual Arts and Design	0%	100%

Figure by authors

Table IV shows cross-tabulation between familiarity with any of three OA declarations and academic field. Regarding academic field, the Chi-square test shows a statistically significant relationship between respondents' familiarity with OAR and the colleges ($\chi^2(1, N=138)=31.25$, $p=.000$, $\phi=.476$). The Phi (.476) indicates a strong association between colleges of the respondents and familiarity with OAR. College of Music was the least familiar (87.5%) with any of the OAR declarations, followed by College of Education (83.4%) and College of Business (80%). The college of Visual Arts and Design and College of Merchandising, Hospitality and Tourism each had 100%, however, there were only two respondents for each of these two colleges. Colleges with the highest familiarity with OAR were College of Information (75%), and respondents identified as Other (72.2%). Others consisted of librarians (12 cases), Honors College (two cases) and School of Journalism (two cases).

Table V shows about half the respondents (52%) were not aware of the university OA policy.

Table V

Awareness of University OA Policy

	Awareness of University OA Policy	
Academic Discipline	Yes	No
College of Arts and Sciences	46.7%	53.3%
College of Business	13.3%	86.7%
College of Education	25%	75%
College of Engineering	10%	90%
College of Information	56.3%	43.8%

College of Merchandising, Hospitality and Tourism	100%	0%
College of Music	50%	50%
College of Public Affairs and Community Service	55%	45%
College of Visual Arts and Design	0%	100%
Other	100%	0%

Figure by authors

Table V shows stark differences among faculty awareness of OA policy by academic discipline. A Chi-square test shows a statistically significant relationship between the respondents' awareness of UNT OA policy and the college ($\chi^2(1, N=138)=44.47$, $p=.000$, $\phi=.568$). The Phi (.568) indicates a strong association and confirms a great difference between the colleges regarding awareness of UNT OA policy. None of the faculty from College of Visual Arts were aware of the UNT OA policy, followed by College of Engineering with 90% unawareness, College of Business (87%), and College of Education (75%). All respondents in the category *Others*, which mainly consisted of librarians, were aware of UNT OA policy, followed by College of Merchandising, Hospitality and Management (67%), College of Information (56%), and College of Public Affairs and Community Services (55%).

Table VI reveals the correlation between the familiarity with OA principles and university OA policy awareness with the intent to deposit. Results indicate that faculty members that were aware of OAR policy were more likely to deposit (65%), than those that were not (41%).

Table VI

Familiarity with OA Declarations and University OA Policy and Intent to Deposit

		Intent to deposit	
		Yes	No
Familiarity with any OA declarations	Yes	76%	24%
	No	40%	60%
Awareness with University OA policy	Yes	64.6%	35.4%
	No	40%	60%

Figure by authors

Chi-square test result (Table VI) shows a statistically significant relationship between the respondents' familiarity with OA declarations and whether they intended to deposit in OARs ($\chi^2(1,N=138)=16.58$, $p=.000$, $\phi=.347$). The Phi (.347) indicates that faculty members familiar with OAR were more likely to deposit (76%), than those that were not familiar (39%). Similarly, the Chi-square test shows a statistically significant relationship between the respondents'

awareness with university OAR policy and whether they intended to participate in OARs ($\chi^2(1, N=138)=8.44$, $p=.000$, Cramer's V=.015).

Intent to deposit by age, rank, status, and discipline

Prior to conducting a series of factor analysis, another series of cross-tabulations (Tables VII-IX) were drawn for the dependent variable (intent to deposit) and the demographic data, to find out whether the intention to participate in OAR was affected by demographic factors.

Table VII

Familiarity with OA Principles, Awareness of OA Policy, and Intent to Deposit by Age

Age	Familiarity with OA		Awareness of OA policy		Intent to deposit	
	Yes	No	Yes	No	Yes	No
31 to 40	33.4%	66.6%	45%	55%	38.5%	61.5%
41 to 50	39.5%	60.5%	60.9%	39.1%	58.1%	41.9%
51 o 60	47.7%	52.3%	69%	31%	47.7%	52.3%
61 to 70	27.5%	72.5%	40%	60%	47.5%	52.5%
Over 70	44.5%	55.5%	28.6%	71.4%	37.5%	62.5%

Figure by authors

Table VII overall results revealed senior faculty members were more likely to participate in OAR than younger faculty. However, a Chi-square tests of independence shows a statistically significant association between faculty age and whether the respondents intended to participate in OARs, ($\chi^2(2, N=138)=12.71$, $p=.048$, Cramer's V=.303). The faculty with the highest rate of intent to participate were in the age group of 51-60 (69%), followed by 41-50 (61%), 31-40 (45%) and 61-70 (40%). The lowest intent to participate was faculty under the age of 30 (0%) and over 70 (29%). However, a Chi-square test of independence shows no statistically significant association between age and intent to deposit, ($\chi^2(2, N=138)=4.72$, $p=.094$, Cramer's V=.185).

Table VIII

Familiarity with OA Principles, Awareness of OA Policy, and Intent to Deposit by Academic Rank and Status

	Familiarity with OA		Awareness of OA policy		Intent to deposit	
Academic rank	Yes	No	Yes	No	Yes	No
Full Professor	33.9%	66.1%	40%	60%	49.1%	50.9%
Associate Professor	32.5%	67.5%	60%	40%	56.7%	43.3%

Assistant Professor	35.3%	64.7%	43.8%	56.2%	38.5%	61.5%
Other	45.4%	54.6%	49.1%	50.9%	57.8%	42.2%
Academic status	Yes	No	Yes	No	Yes	No
Tenured faculty	34.4%	65.6%	48.9%	51.1%	51.28%	48.7%
Tenure track	37.5%	62.5%	40%	60%	41.7%	58.3%
Non-tenure track	42.9%	57.1%	48.2%	51.8%	59.6%	40.4%

Figure by authors

Overall results of Table VIII show that senior faculty members were more likely to participate in OAR. However, a Chi-square test of independence shows no statistically significant association between faculty rank and intent to deposit, ($\chi^2(2,N=138)=2.14$, $p=.544$, Cramer's V=.124). While associate professors and *Other* showed the highest rates of intent (57%), about half (49%) of the full professors, and only 38% of assistant professors intend to deposit. Regarding faculty status, a Chi-square test of independence shows no statistically significant association between faculty status and intent, ($\chi^2(2,N=138)=3.81$, $p=.282$, Cramer's V=.279). The non-tenure track faculty scored a slightly higher rate of intent (59%), followed by tenured faculty (51%), and tenured-track faculty (42%).

Table IX

Intent to Deposit by Academic Discipline

	Intent to Deposit	
Academic Discipline	Yes	No
College of Arts and Sciences	47%	53%
College of Business	21.4%	78.6%
College of Education	38.5%	61.5%
College of Engineering	22.2%	77.8%
College of Information	84.6%	15.4%
College of Music	71.3%	28.5%
College of Public Affairs and Community Service	35.3%	64.7%
College of Visual Arts and Design	50%	50%
Other	100%	0%

Figure by authors

Table IX reveals a difference between academic disciplines and intent to participate in OAR. A Chi-square test shows a statistically significant relationship between the respondents' college and whether they intended to participate in OAR institutional repositories, ($\chi^2(1,N = 138)=32.85$, $p=.000$, $\phi=.488$). The Phi (.488) indicates some colleges were more likely than others to participate in OAR. The category *Others*, mainly librarians, showed 100% depositing intent. College of Information showed the second highest intent to deposit with 84.6%, followed by College of Visual Arts (50%) and College of Arts and Sciences (47%). The two colleges with the lowest rates of depositing intent were the College of Business with 21% and College of Engineering with 22%. College of Public Affairs and Community Services showed fairly low rates of intent (35%) and College of Education (38%). Participants from the College of Merchandising, Hospitality and Tourism did not answer this question.

Relationship between faculty awareness of OA principles, university OA policy and intent to deposit by academic field

This study found a relationship between familiarity with OA principles and college department, differences between college departments and university policies, and differences between college department and intent to deposit. Another way to view the study results is by looking at the familiarity with OA principles, awareness of university OA policy, and intent to deposit together by each discipline for a broader visualization of faculty views of OARs within each college.

Table X.I shows results of the two colleges with the highest awareness of OA principles, university OA policy, and intent to deposit, the College of Information and Other. The Other respondents includes responses from librarians.

Table X.I

Colleges with most familiarity of OA Principles, Awareness of OA policy, and Intent to deposit

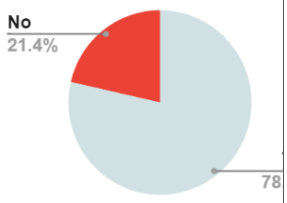
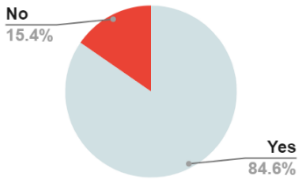
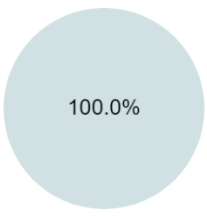
College/Department	Familiarity with OA principles	Aware of university OA policy	Intent to deposit
College of Information			
Other			

Figure by authors

Table X.II shows the next two colleges most familiar with OA principles and university policy. Looking at these responses with awareness of the university OA policy, the College of Public Affairs and Community Service (55%) and the College of Arts and Sciences (46.7%) knew to some degree about the policies. The College of Arts and Sciences' 46.9% intent to deposit indicates a greater awareness of university OA policy correlates with greater intent to deposit and is what Zhu (2017) found in in UK universities. The College of Public Affairs intent to publish at 35.2% was the only college whose intent to publish was lower than its awareness of OA policies at 55%.

Table X.II

College of Arts and Science and College of Public Affairs and Community Service

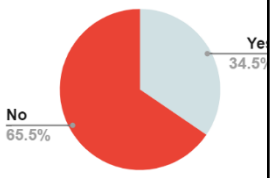
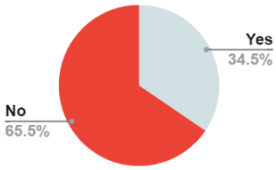
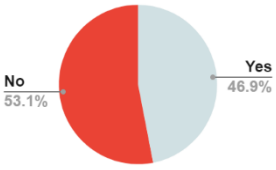
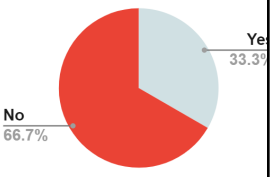
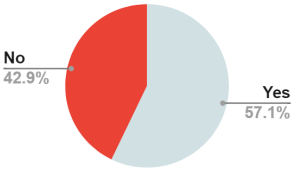
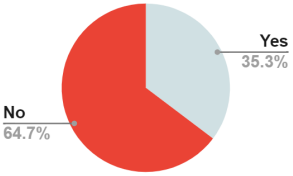
College/Department	Familiarity with OA principles	Aware of university OA policy	Intent to deposit
College of Arts and Science			
College of Public Affairs and Community Service			

Figure by authors

Table X.III shows the colleges with the least amount of yes responses for familiarity of OA principles and even less familiarity with the university OA policy. These colleges all had a similar or greater intent to deposit than their awareness of university OA policy. These responses deviate from any studies indicating that greater awareness of an institutions' OA policies results in greater amounts of depositing (Zhu, 2017), or findings that less awareness of OAR leads to prejudices against it (Turgut *et al.*, 2021).

Table X.III

Colleges with least familiarity with OA and awareness of university OA policy

College/Department	Familiarity with OA principles	Aware of university OA policy	Intent to deposit

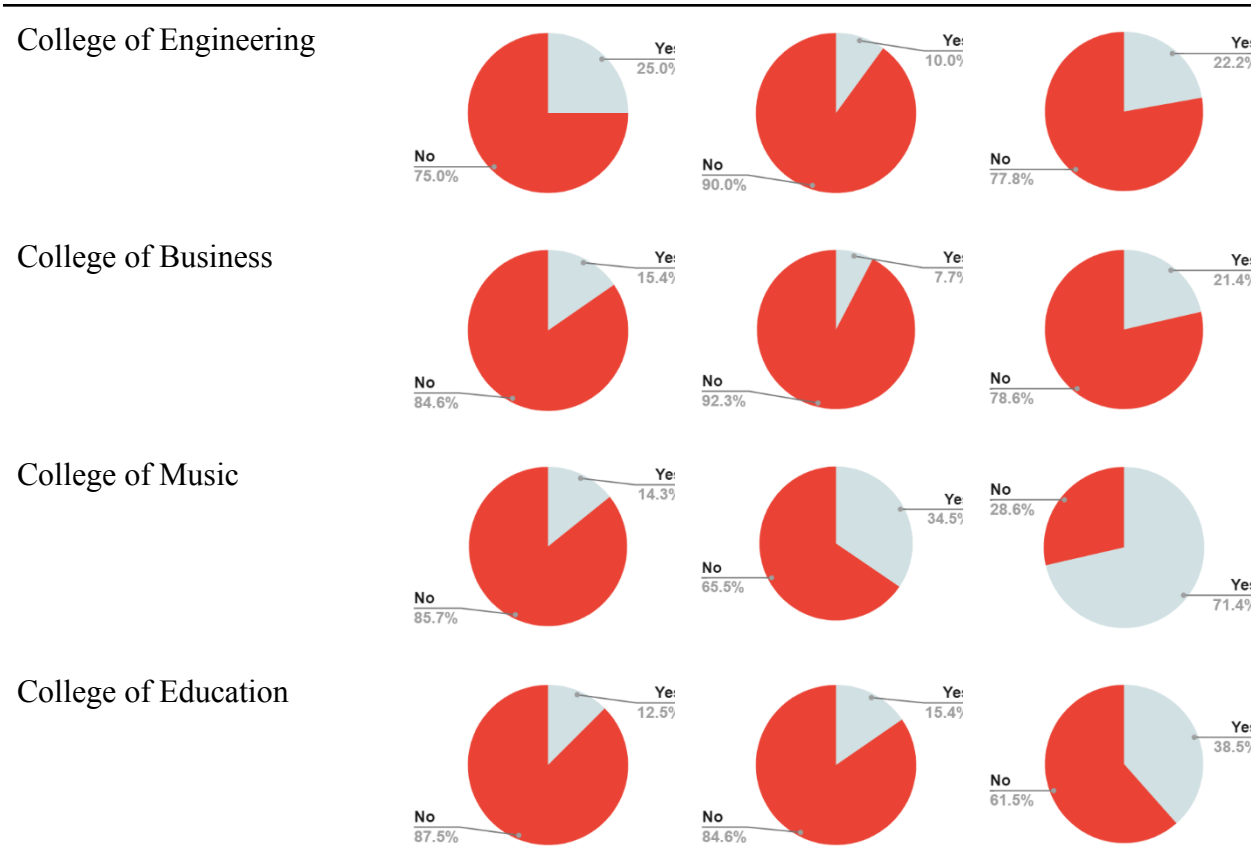


Figure by authors

Discussion

Regarding faculty age, older, tenured faculty are more likely to publish OA which aligns with literature that points to older faculty as more familiar with and willing to publish in OA (Zhu, 2017; Frederiksson, 2020). Faculty age is just one factor that could overlap with other significant factors (i.e., rank, status) that impacts faculty intent to deposit in OAR. Overall results of the study found the age range 51-60 had the highest intent to deposit (69%) followed by the range 41-50 (60.9%). However, most participants (81.6%) fall within these two categories of ages 41-70. Based on Nicholas *et al.*'s (2020) definition of early career researchers by age, typically younger than 35, the results of this study collected responses from participants that were mainly over the age of 35 and well-established in their careers. This could be interpreted as an effect of faculty status rather than age.

The number of participants in the survey that were either tenured or on the tenure track was at 65.8% of the respondents (Table II). Of these two groups, 56.7% of the responses were already tenured faculty. Yang and Li's (2015) research also showed a higher number of tenured responses which they thought might suggest more interest in OA topics by this group. Around 50% of tenured faculty intend to deposit their work into an OAR. Non-tenure track faculty were more likely to deposit with 59%, than tenure track faculty, with 42%. The study reveals that while there is no statistically significant difference between full professors and intent to deposit, with 49%, there's a statistically significant difference between the associate professor (57%), assistant professor (38%), others (58%) and intent to deposit. These results might suggest that

faculty awareness and intent to deposit could be driven by career advancement which is more important than the values they assign to openness or OA initiatives.

More significantly, this study's findings are aligned with previous research that reveals the impact of academic discipline in faculty participation in OARs (Dalton *et al.*, 2020; Li *et al.*, n.d.; Mering, 2020; Fry *et al.*, 2016; Peekhaus, 2019). This study reveals a statistically significant correlation between the intent to deposit and the respondent's college/academic field. Some academic disciplines are more likely to participate in OA than others. The College of Information and Other categories, comprised mostly of librarians, scored higher on the intent to deposit. Results such as these are not surprising as those two categories would be more aware of not only OA in general, but also OA publishing avenues and benefits of sharing their work. The results from Tables X.I-X.III show the difference of depositing patterns by academic discipline and can provide a deeper understanding for targeted library OA outreach plans.

The examination of faculty age, rank, status, and discipline alongside awareness of OA principles and university OA policy, with the intent to deposit is a process that entails many variables. As seen from this study's findings, there are multiple ways to examine data regarding faculty traits. Turgut (2021) claims that researchers must go beyond having a basic awareness of OA principles to publish in OA and deposit their work in an OAR. While awareness of OA can be beneficial, the lack of clear understanding of OA principles within discipline-specific publishing knowledge can create false impressions of OA benefits and perceived barriers of OA options (Fitzgerald and Jiang, 2020).

Furthermore, there are additional factors that might affect faculty intent to deposit. Looking at institutions at a larger scale, culture of a campus and enforcement of policy compliance can affect faculty participation in OA (Mering, 2020). Examining an institution on a smaller scale, studying sub-disciplines can help understand OAR perceptions which might be underrepresented in generalized meta-discipline OA perceptions (Fry *et al.*, 2016).

Limitations

While OARs are an international phenomenon with a variety of open access philosophies and practices, the focus of the current research was on faculty familiarity with OA principles and awareness of OA policy within a large public university in Texas. There were no significant responses from the College of Science or the College of Health and Public Service and, therefore, did not yield any statistically significant results. The reason could be that faculty in health and sciences are more frequently engaged in research activity and tend to produce more work that is considered "publishable" and are more likely to submit their work to well-known journals within their field and less interested in OA publishing.

Investigating the university's OA policy and promotion system was outside the scope of this study. Given that promotion systems might serve as a deterrent (or motivation) for OA publishing, further research of promotion systems in academia could prove useful in understanding how it impacts faculty intent to deposit in OARs.

Conclusion

This study shows there is a difference in faculty familiarity with OA principles and faculty awareness of OA policy based on faculty age, rank, status, and especially academic field. Furthermore, these faculty individual traits do make a difference in faculty members' perception

of OA publishing and willingness to participate in an OAR. In addition, individual faculty traits, such as academic discipline was found to make the most significant difference in faculty intent to deposit their work in an OAR.

The ever-changing landscape of OA publishing makes the outreach efforts by OAR staff very challenging. However, ongoing library education outreach efforts will continue to shape faculty members' perceptions and practices of OA publishing. While faculty participation in OA publishing depends on the ability of OAR staff to educate faculty regarding the benefits of OA publishing, and to promote access to quality OA publishing platforms across all disciplines, it also depends on institutional mandates, and support from the institutions.

This study could assist OAR staff in developing group specific approaches in their outreach efforts. However, considering the evolutionary nature of OA publishing, further research is needed to better understand the extent of faculty awareness of OA principles and intent to deposit in OARs based on these categories. For successful outreach efforts by academic librarians, it is important to understand faculty individual differences, such as discipline, rank, status, as well as the influence of the institution's OA policy.

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