Structural Diversity in Academic Libraries: A Study of Librarian Approachability

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Introduction

Diversity initiatives in academic libraries are designed to meet the needs of an evolving landscape of library users. These programs often reflect an academic mission to provide culturally relevant services and resources to an increasingly intercultural campus community [1,2], and contribute to emergent models of service that encourage the development of multicultural competencies [3–7], emphasize culturally relevant collection development policies [8–10], vary library media and delivery formats, and influence diversity recruitment and hiring practices [11,12]. While the term "diversity" comprises a wide constellation of experiences, skills, and cultural backgrounds (often termed "invisible diversity"), it also includes external, visible characteristics such as gender, age, and racial/ethnic affiliation. Given the propensity for people to form first impressions based on visually salient characteristics, demographic attributes may be especially resonant for library users when deciding whether or not to initiate contact with a librarian. To test this hypothesis, we conducted an image-rating study to assess whether perceptions of librarian approachability are affected by gender, age, and race/ethnicity, in order to better understand the user experience in academic libraries, and potential areas for growth in recognizing the value of diversity initiatives.

Librarian Approchability

According to the American Library Association's guidelines for the behavioral performance of reference and information service providers [13], a critical component of a successful reference interaction is that a librarian should be approachable. From surveys to focus groups to observations of reference desks and public service stations, there is a wealth of library and information research that analyzes reference desk behaviors and patterns. However, these studies tend to focus on user satisfaction with service provision, the types of questions users ask at the reference desk, and reference behaviors considered key to successful interactions. In other words, these studies examine users' behavior once they have already initiated contact with a librarian. Little research has systematically explored the critical moments prior to a user's decision to approach a librarian to ask for help.

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Even fewer studies have analyzed reference interactions based on the demographic characteristics of the library user and the librarian at the desk. In observational studies of reference interactions in academic libraries, researchers have found mixed results regarding user preferences or attitudes. Several studies have demonstrated a patron preference to approach female (versus male) librarians and public service staff when given a choice [14–16]; however, other research has shown no approach bias regarding librarian gender [17]. Whereas recent library literature has emphasized the growth of ethnically and racially diverse populations on college campuses and in academic libraries, interventions have tended to focus on outreach opportunities and library instruction for traditionally underserved populations, and not on issues of approachability or reference service.

Approachability as a Social Judgment

Psychological studies conducted outside of the library setting have investigated factors that affect approachability in broader contexts. These studies have found that the approachability of an individual is in part a function of physiognomy, or "cue-based" judgments. Examples include facial expression [18–20], the craniofacial similarity to emotional expression [21], babyfacedness [22], and attractiveness [23,24]. An individual's approachability is also affected by "category-based" judgments, such as gender [25,26]. For categorization based on age, older people are consistently scored as "warmer" than younger targets [27], although for the specific parameter of approachability this may be moderated by a generally more favorable regard for younger people [28]. Research on implicit (i.e., unconscious and largely automatic) attitudes indicates that race is an important differentiator, and that these attitudes can affect behavior [29], which opens up the possibility that this categorization may also affect perceptions of approachability. Because the physiognomy of an individual strongly influences how others demographically classify that person, cue-based and category-based judgments highly overlap. Nonetheless, researchers have used clever experimental designs to parse the two types of judgments, demonstrating that both have an influence on social judgments and may have implications for perceptions of approachability [30,31].

Current psychological models for impression formation suggest that the judgment of another person's approachability is based not simply on the characteristics of the perceived individual, but on the judger's own characteristics. The Stereotype Content Model [32] proposes that category-based evaluation of another person is made in relation to that target's group status (i.e., reflects culturally derived group status affiliations), which activates a perception of relative competence; this same evaluation is made in relation to expected intergroup competition between the perceiver and the target, which activates a perception of relative warmth. The categories of gender, race, and age are frequently used by individuals in initial impression

formation, potentially due to their high visual prominence [33]. Each category provides an opportunity for a perceiver to compare her/his own categorization with that of the target, and to use it in evaluating the target's approachability.

Study Overview

This study assessed how the demographic characteristics of library users affect their perceptions of the approachability of hypothetical librarians grouped along the same dimensions. We used an image-rating method that was distributed online to a large and diverse set of academic library users. This method has been implemented most often by researchers who are exploring perceptions of approachability for clinical populations. Campbell et al. [34] applied the method to non-clinical populations, and found good internal validity. With this approach, we were able to hold many potentially confounding factors (e.g., facial expression, body posture, library setting) constant while systematically varying target gender, age, and racial/ethnic affiliation. This method provided insights into patron perceptions of librarian approachability.

Method

During the Fall of 2011, respondents at a large, Midwestern university system participated in an online survey aimed at better understanding approachability in a library context. Raters were asked to rate the approachability of images of hypothetical librarians that were systematically varied with respect to gender, age, and race. After completing the image-rating component of the survey, raters answered questions regarding their own demographic and personality characteristics.

Raters

This study yielded 449 raters from the 3-campus university system, and included 312 raters who identified as female, 134 as male, and 3 as transgender. Regarding racial/ethnic affiliation, 29 raters identified themselves as African American or Black, 83 as Asian or Asian American or Pacific Islander, 269 as White (non-Hispanic), and 68 in additional categories including "Other." Within the sample, 61.9% were undergraduate students, 25.4% graduate students, and 12.7% Faculty, Staff, or Other affiliation. The total number of younger raters in the dataset was 392, versus 57 older raters. For this study, "younger" was defined as less than or equal to 35 years of age. This is the age cutoff used by the American Library Association for young professionals [35] and emerging leaders [36]. All statistical analyses used to assess differences between demographic categories (e.g., male versus female for the gender category) implicitly accounted for any uneven numbers of participants for those categories.

Materials

Full-face color photographs of 48 hypothetical librarians with neutral emotional expressions were taken from several image databases. Using multiple databases was essential to obtaining a large set of faces with diverse demographic characteristics. The majority of the faces were downloaded from the National Institute of Standards and Technology Color FERET database [37,38], followed by small samples of faces from the University of Texas Center for Vital Longevity Database [39] and the European Conference on Visual Perception [40]. Several stock photos were purchased to ensure that equal numbers of demographic variability were present (i.e., gender, age range, and racial/ethnic affiliation). Specifically, the image count consisted of 24 male and 24 female targets for the gender category, 24 younger and 24 older targets for the age category, and 16 White, 16 African American, and 16 Asian targets for the race category. With this setup, each combination of demographic categories (e.g., male-younger-White) was represented by 4 images. The initial study design also included a Latina/o or Hispanic category of analysis; however, insufficient numbers of images that met the study requirements (e.g., adequate representation within this subgroup for age and gender) were readily available for download, which led to the removal of this category of analysis.

Adobe Photoshop was used to standardize the 48 images. The face in each image was aligned with an appropriately fitted body in a long sleeved, light blue tee shirt, sitting face forward in front of a computer on a desk. The architecture of each image remained consistent, and was set against a light gray background. Qualtrics survey software was used to develop and administer the online survey to the three campuses of the university system. See Figure 1 for an example.

Pilot tests were conducted to ensure that there was consensus regarding the demographic characteristics of each image. In these pilot tests, 8 raters from diverse backgrounds were asked to assign each image to gender (female, male), age (less than or equal to 35 years old, greater than 35 years old) and race/ethnicity (African American, Asian, White) categories. Consensus was defined as agreement on categorization of each image by at least 7 of the pilot test raters.

Design and Procedure

The study was conducted online, with the survey made available to a 3-campus university system at a large, public Midwestern university. The survey was accessible over a 2-week period in the Fall semester of 2011, and raters were offered an incentive to enter a raffle for one of ten $50 gift cards upon completion of the anonymous survey. Each respondent was introduced to the survey, and then presented one-at-a-time with the 48 images of hypothetical librarians, in a different random sequence for each rater. Each image included both a photograph and the following verbal instructions: "Imagine you need to ask a librarian a question. Rate the approachability of this librarian." Raters scored the target image's approachability on a Likert scale of 1 to 10, with 1 being "Least approachable" and 10 being "Most approachable."

After the image ratings were completed, raters were asked 4 demographic questions regarding their gender, age, race/ethnicity, and affiliation with the university. Lastly, raters were asked 5 questions regarding their personality characteristics. After completing the survey, raters were able to click on a link that took them to a web page where they were able to enter the gift card raffle. Median survey completion time, not including time to enter the raffle, was approximately 7 minutes.

Analysis

Two types of analyses were conducted. First, we conducted simple one-way ANOVAs of mean approachability ratings derived from raters' gender, age, and racial affiliations, and one-way ANOVAs for the images classified by these same categories. Note that for gender and age categorization, where there were only two categories (i.e., male versus female or younger versus older), ANOVAs are mathematically equivalent to Student's t-tests. This analysis provided an assessment of rater-level variation in how respondents perceived the approachability of the same images, as well as an assessment of broad differences in approachability ratings for these images.

For the second type of analysis, three separate hierarchical linear models were used to characterize the differences in the image approachability rating (i.e., the outcome or dependent variable) between rater and image demographic variables (i.e., independent variables). A separate hierarchical linear model was generated for each of the demographic classifications: gender, age, and race. This type of model was used to control for multiple approachability ratings of images nested within raters. Each of the 48 images was classified by the pilot test for gender, age, and racial affiliation, and each of the raters was classified by the same categories by survey responses. The model for each category of gender, age, or race effects was specified as follows:

Level 1 (Image Level):

$$Y_{i,j} = \beta_{0j} + \beta_{1j} * X_{ij} + e_{ij}$$

Level 2 (Rater Level):

$$\beta_{0j} = \gamma_{00} + \gamma_{01} * Z_j + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} * Z_j$$