

# Gendered Differences in Acknowledgements for Doctoral Advisors at a Land-Grant University



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## Author Note

### Acknowledgements

This project was supported by a McIntire-Stennis Project VA-136646 awarded to the lead author.

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### Abstract

The acknowledgements section of a doctoral dissertation provides a rare view into the student-advisor relationship. The gendered differences for how doctoral students acknowledge male and female advisors was examined in 208 dissertations from a U.S. land-grant university. Doctoral students used a greater number and diversity of words when acknowledging female advisors. Nine hierarchical thematic roles and obligations of advisors were identified and were equally represented in acknowledging male and female advisors. Doctoral students described the roles and obligations of their doctoral advisor independently of gender; however, they used gendered language, which highlights the persistence of gendered norms within academic culture.

Keywords: Gendered language, graduate advising, advisor roles, acknowledgements

In the United States, doctoral programs require the completion of academic coursework and original research supervised by a dissertation advisor and reviewed by a graduate committee of disciplinary experts. Under the close guidance of an advisor, a doctoral student formalizes their research interests, learns discipline-specific methodologies, improves technical writing skills, learns appropriate research ethics, and sets personal expectations for productivity (Belcher, 1994; Hollingsworth & Fassinger, 2002). An advisor's disciplinary influence is thought to have a permanent impact on the future research of a doctoral student. This impact may be passed through multiple generations of advisor-student relationships, a phenomenon documented in academic

genealogies (Copenheaver et al., 2009; Marsh, 2017). Given the long-term influence of an advisor on a doctoral student's future career, it is helpful to understand what qualities characterize a successful relationship between an advisor and doctoral student.

Successful doctoral students actively cultivate a relationship with their advisor and frequently express appreciation, courtesy, humor, and goals when communicating with their advisor (Mansson & Myers, 2012). Most universities have systems for faculty advisors to evaluate the progress of a doctoral student towards degree completion; however, universities seldom provide a structure for a doctoral student to evaluate the guidance and mentorship provided by a faculty advisor (Craft et al., 2016). One informal evaluation of faculty advisors provided by doctoral students is the acknowledgements section of their dissertation.

The acknowledgements section provides a valuable glimpse into the words and world of the doctoral student. In the early 20th century, doctoral students tended to write formulaic acknowledgements which followed the content and structure suggested in widely-used thesis style guides (Schrivener, 2009). However, in more recent decades individual expression in the acknowledgement section has become the norm and the acknowledgements section serves as a primary source of the doctoral experience. That being said, the dissertation and the associated acknowledgements section are public documents and the student selects words with the knowledge that they may be read by their advisor, graduate committee, and the larger research community. Therefore, the writing is constructed within a rhetorical framework that must negotiate imbalances of socio-political power which depends upon the student's own perceived status within academia.

Our research had four objectives: (1) identify words in

## GENDERED DISSERTATION ACKNOWLEDGEMENTS

acknowledgments sections of doctoral dissertations which were used exclusively when referencing male advisors or female advisors; (2) quantify differences in the frequency of words used by doctoral students to acknowledge both male and female advisors; (3) place words used by doctoral students to acknowledge their faculty advisors into thematic categories; and (4) connect thematic categories to words used more commonly in reference to male or female advisors to identify potential gender differences when acknowledging faculty advisors. We approach this research from the perspective that gendered experiences have been documented for female and male faculty members in other components of their research programs including: academic conferences (Settles & O'Connor, 2014); industrial consulting (Crowe & Goldberger, 2009); leadership opportunities (Cho et al., 2017); professional societies (Anderson et al., 2021); and published scholarship (Borrego et al., 2010).

### Methods

#### Dataset

Doctoral dissertations from a major land-grant university in the southeastern United States were accessed for the years 1995 to 2020. We reviewed the acknowledgements section from a collection of 208 dissertations: 104 male advisors (52 male students and 52 female students) and 104 female advisors (52 male students and 52 female students). Once a dissertation supervised by a faculty member was selected for use in the study, any subsequent dissertations supervised by that faculty member were excluded to prevent undue influence of individual faculty members on the analysis. The dissertations included students who had earned their doctorates in 56 different academic departments or schools within the university. Only a single dissertation had no mention of the advisor in the acknowledgements section (male advisor with male student); however, because absence of words has meaning (Koslov, 2019), we did not replace this dissertation with another.

#### Analysis

The first stage of quantitative analysis involved sorting the words used to acknowledge advisors into categories based upon the identified gender of the faculty member. Gender categories of faculty advisors were based upon pronouns used by students within the acknowledgements section, e.g. "Her enduring confidence in my ability..." or "...his door has always been open..." For the qualitative analysis, we used focused coding (Saldaña, 2013) to identify a hierarchy of thematic categories based on the words used by doctoral students to acknowledge their dissertation advisor. Once thematic categories were finalized, we used a chi-squared test to identify whether male or female advisors were more strongly affiliated with specific thematic categories. Analysis was conducted using the `chisq` test function in R software package version 4.0 (R Core Team, 2021).

### Ensuring Trustworthiness and Dependability

To ensure the trustworthiness and dependability of the qualitative analysis, the research team employed peer debriefing and researcher reflexivity during the coding process. The initial coding was completed by the lead author. Her coding was reviewed and discussed by all authors during several peer debrief sessions that explored the meaning of language across disciplines (Simon, 2017). The final stage of the coding was a period of intentional researcher reflexivity. All co-authors examined how their own lived experience as doctoral students and faculty advisors may have impacted the formulation of the thematic categories with the goal of having a "reflective open stance" (Vagle, 2009) in the examination of the language used by doctoral students.

### Subjectivity Statement

Collectively the co-authors have witnessed and participated in the academic culture of seven universities as faculty members and seven colleges or universities as students. The lead author identifies as female and was advised in her doctoral program by a male and has advised male, female, and non-binary graduate and undergraduate students. The second co-author identifies as male and was advised in his doctoral program by a female. He has only advised male doctoral students. The third author identifies as male and was advised in his doctoral program by a male. He was especially influenced by the personal and professional mentorship provided by his male post-doctoral advisor. He has advised male and female undergraduate, graduate, and post-doctoral students.

### Results

#### Quantitative Analysis of Words Used to Describe Male and Female Doctoral Advisors

Doctoral students used a greater number and diversity of words within the acknowledgements section of their dissertation when referring to female advisors (Tables 1-4). Thirty-three words were used exclusively to describe male advisors (Table 1) with the most common word being "allowed." Fifty-six words were used exclusively to describe female advisors (Table 2) with the most common word being "wisdom." There were 55 words used by doctoral students to describe both male and female advisors (Tables 3 and 4). Overall, the doctoral students used a total of 144 words to describe advisors in the acknowledgements section of their dissertation with 23% of the words used exclusively for male advisors; 15% used more commonly for male advisors; 39% used exclusively for female advisors; 17% used more commonly for female advisors; and 6% used equally between male and female advisors.

#### Qualitative Analysis of Thematic Categories

The identification of thematic categories yielded a hierarchy of nine roles which faculty advisors fill in support of their doctoral students. Doctoral students acknowledged

## GENDERED DISSERTATION ACKNOWLEDGEMENTS

faculty advisors from two perspectives: independent of the student and dependent of the student (Figure 1, first division). The division represents the students' recognition of the dual role of a faculty member as both a dissertation advisor and an academic with other professional obligations. For example, a doctoral student wrote about her advisor, "Her ability to teach, motivate, and encourage me while juggling all of her other responsibilities has been inspiring."

The words and phrases used by doctoral students to describe their faculty advisors as independent from themselves were further separated into two secondary categories: acquired and intrinsic characteristics (Figure 1, second-level division). Acquired characteristics were those held by a faculty advisor because of extensive education or training. Many of these acquired characteristics represented the faculty member's standing within the larger academic discipline. In contrast, the intrinsic characteristics were more closely aligned with a faculty advisor's work style. We subdivided the intrinsic category into passive and active traits (Figure 1, third-level division). A passive trait was one which represented a characteristic that was seemingly indicative of a state of being or ontological quality that the faculty member possessed, e.g., calm, good, strength. An active trait was achieved when a faculty member acts or behaves in a certain manner, e.g., focused, motivated, productive.

The words or phrases used by doctoral students to describe faculty advisors as dependent from themselves were subdivided into two secondary categories: supported

**Table 1**

*Thirty-three words written by 104 doctoral students in the acknowledgements section of their dissertation when expressing gratitude towards male faculty advisors. These words were never used by students advised by female faculty members and were unique to male advisors. Numbers in parenthesis indicate more than one student used a particular word.*

Allowed (10)	Integrity
Answered (2)	Intelligence (2)
Being the Man	Learned (4)
Capable	Meticulous
Coaching	Nurture
Commitment	Outlined dissertation
Consistent	Praise
Consoled me	Pushed me
Conversation (3)	Resourceful
Cool guy	Scientist
Debate	Share
Efficient	Shepherd
Guru of the southeast	Stimulating
Honest	Strength
Improved my English	Thorough (2)
Ingenious	Tough
Instrumental	

**Table 2**

*Fifty-six words written by 104 doctoral students in the acknowledgements section of their dissertation when expressing gratitude towards female faculty advisors. These words were never used by students advised by male faculty members and were unique to female advisors. Numbers in parenthesis indicate more than one student used a particular word.*

Ability	Involved
Academic parent	Juggled responsibilities
Accepting	Navigated
Collaborator	Organized
Colleague (3)	Perseverance
Confidence in me	Personal cheerleader
Creative	Powerful
Develop (2)	Prepared
Diligent	Problem solver
Empathy	Prodded me
Energy	Productive (2)
Excellence	Raised me up
Exciting	Reality checks
Expanded horizons	Recognized ability
Flexible	References
Focused (3)	Relentless
Force	Reviewed dissertation (2)
Frankness	Scholar (2)
Gave autonomy	Selfless (2)
Good	Shaped me
Hugs	Skilled
Humor	Stretched me
Ideas	Superwoman
Impact	Sustained me
Impression	Talent
Innovative (2)	Vision
Interest	Wisdom (6)
Interpret	Worked (3)

the research and supported the student (Figure 1, second-level division). We further subdivided the thematic category of supporting the student into two third-level categories: the task master and the gentle motivator (Figure 1). These two categories of supporting the student were not exclusionary and some doctoral students described their advisor as being both task masters and gentle motivators, "You provided the necessary balance of challenge and support that has made

## GENDERED DISSERTATION ACKNOWLEDGEMENTS

**Table 3**

Words used by doctoral students in the acknowledgements section of their dissertation to express gratitude towards male and female advisors. Words used more frequently to describe males compared to female advisors are listed in the top panel. Words used equally to describe male and female advisors are listed in the lower panel.

Word	Number of references for male advisor	Number of references for female advisors
<i>Words used more commonly to describe male advisors by doctoral students</i>		
Advice	17	14
Counsel	2	1
Criticism	4	2
Direction	3	2
Edit writing	2	1
Encouraged	42	38
Generous	4	2
Help	19	17
Insightful	4	3
Introduced	3	2
Kindness	4	3
Knowledge	9	4
Leadership	3	2
Opportunity	24	13
Passion	2	1
Patient	26	16
Provided	4	3
Read dissertation	2	1
Took a chance on me	4	3
Trained	3	2
Trust	3	1
<i>Words used equally to describe male and female advisors by doctoral students</i>		
Calm	2	2
Concern	1	1
Enjoyment	2	2
Feedback	1	1
Gave freedom	2	2
Influential	3	3
Responsive	1	1
Suggested	3	3
Understood	2	2

this journey a transformational experience.”

### Assessment of gendered differences in thematic categories

The qualitative analysis identified thematic categories which reflect the roles and obligations of a dissertation advisor. A chi-squared test evaluated potential gendered bias within these thematic categories. The test revealed there were no gendered biases and that male and female advisors were equally represented across all thematic categories ( $\chi^2 = 6.4051$ ,  $df = 5$ ,  $p\text{-value} = 0.2688$ ).

**Table 4**

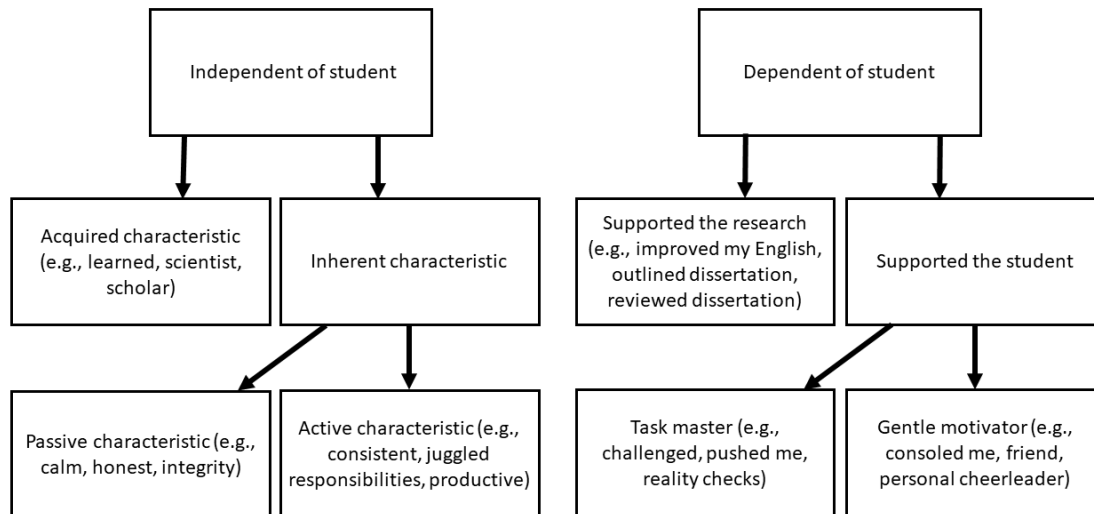
Words used by doctoral students in the acknowledgements section of their dissertation to express gratitude towards male and female advisors. Listed words were used more frequently to describe female advisors compared to male advisors.

<i>Words used more commonly to describe female advisors by doctoral students</i>		
Assistance	4	10
Available	4	10
Believed in me	2	7
Cared	2	3
Challenged	1	6
Dedication	2	3
Devotion	1	3
Discussion	2	3
Effort	1	3
Enthusiastic	1	8
Experienced	1	3
Expertise	1	2
Faith in me	1	2
Friend	11	15
Guidance	58	60
Inspiration	3	8
Laughter	1	2
Mentor	12	30
Motivated	1	5
Role model	2	5
Supervision	3	4
Supported	48	60
Teacher/Taught	10	11
Thoughtful	1	3
Time	12	21

# GENDERED DISSERTATION ACKNOWLEDGEMENTS

Figure 1

Words used to describe doctoral students' advisors within the acknowledgments sections of their dissertations fit into nine hierarchical themes. There were two themes in the first level of separation, four in the second level, and four in the third level. Example words from the dissertations are provided within the final box of each line of the dendrogram.



## Discussion

### Research limitations

This study sampled acknowledgements sections of dissertations from a single land-grant university, which means it shares a common history of origin, emphasis on science and agriculture, and connection at a federal level with other land grant universities (Marcus, 2015); however, the results of this project may not be generalizable to private universities and non-land grant public universities. Another limitation of this study is the binary characterization of gender. All faculty members identified with two gender categories (male or female). Thus, the results do not represent faculty members from non-binary gender identities.

### Gendered acknowledgements

The richness and diversity of the language used by doctoral students to acknowledge female faculty members indicates that graduate students filter their language and thoughts about their faculty advisor through a gendered lens. Students having gendered views of faculty advisors is also revealed by students increased willingness to approach female faculty with personal matters (Nadler & Nadler, 2001). Gendered differences in the approachability of female faculty members were reflected in doctoral students more frequent use of words such as “available,” “assistance,” and “time.” Many doctoral students supervised by female advisors described relationships with a high level of regular communication, e.g., “[my advisor] spent endless hours speaking with me by phone, corresponding with me by email, and revising each draft of the text.” Some students of female advisors expressed a feeling of mourning when the degree was completed, “I will miss not seeing her every day as I have these past six years.”

### Roles and obligations lack gender specificity

All doctoral advisors seemed to have specific roles and obligations which were independent of gender and required for a doctoral student to successfully complete their degree program. These common aspects of the advisor-student relationship were captured through the thematic categories (Figure 1) and correspond well with the advising roles and obligations identified by other studies (Barnes & Austin, 2009; Beres & Dixon, 2016). Successful doctoral advisors support a student's development as a researcher, support the student through the doctoral experience through blend of motivation and chastisement, and form a relationship with the student which is collegial, supportive, accessible, and honest (Barnes & Austin, 2009). The relationship between advisor and student includes a power imbalance and this results in a challenging tension between a formal supervisory relationship and an intellectual friendship between two scholars who are equally passionate about their narrow area of disciplinary expertise (Beres & Dixon, 2016). Neither our work, nor other research, has identified that the gender of a faculty member impacts the roles filled and the obligations of a doctoral advisor or a faculty member's competence in serving as a graduate advisor (Judson et al., 2019).

### Summary

The relationship between doctoral student and faculty advisor must be uniquely forged during the process of transferring disciplinary expertise from advisor to student. Some relationships are fraught with discord (Gearity & Mertz, 2012); but successful student-advisor relationships blend friendship, mentoring, and a common love of a discipline. Male and female faculty advisors appear to fulfill the same roles and obligations for doctoral students; however, when male and female advisors were acknowledged for the same tasks, the doctoral students used gendered language when

## GENDERED DISSERTATION ACKNOWLEDGEMENTS

acknowledging faculty advisors. Thus, although the same roles and obligations are met by male and female advisors, graduate students think and write about their male and female advisors differently. Within academia, there remains a strong alignment between a faculty member's gender and the language used by doctoral students to acknowledge them. These results and other studies reveal how deeply entrenched binary gendered norms are within academic culture (Niewoehner-Green et al., 2022) and provide evidence of the need for the modification of "existing gendered scripts" being used to acknowledge female and male faculty members (Morison & Macleod, 2013). Modification of gendered norms can only come from faculty members having open discussions with their doctoral students about gender roles and the power dynamics within academic relationships.

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