Engineering Faculty Members' Experience of Professional Shame: Summary of Insights from Year 1

Abstract

This paper summarizes the current status of our NSF CAREER investigation of engineering faculty members' experiences of professional shame. In the first year of this project, we used interpretative phenomenological analysis (IPA) to examine the emotional experience among individual faculty members in engineering programs. Our objectives are anchored in our overarching goal to understand the connections between the emotion regulation of engineering faculty and the academic cultures that embed them. This paper focuses on the work that has been completed in the first year of this project examining the individual experiences of engineering faculty with professional shame. We report on general patterns from the early stages of our analysis of interview transcripts with four engineering faculty members ($n = 14$). We discuss how our IPA work informs our next steps of our overarching investigation, and briefly discuss the broader significance related to the context of faculty wellbeing within engineering education.

Introduction

This NSF CAREER project seeks to advance cultures of well-being in engineering education contexts by studying faculty members' lived experiences of professional shame and connecting these experiences to how they facilitate or impede well-being in engineering programs. By closely examining the emotional experiences of faculty, we seek to illuminate how their behaviors might reinforce dominant narratives of exclusion as they cope with shame [4, 10].

This project is designed to address two significant gaps in extant literature: 1) the role of professional shame in facilitating or mitigating cultural patterns of well-being; 2) the complex, dynamic nature of the lived emotional experiences of engineering faculty. We organize this project around the following objectives:

> **Objective 1:** Examine social and individual experiences of professional shame in engineering faculty.

> **Objective 2:** Characterize the link between faculty's emotional experience and their surrounding cultures of well-being.

> **Objective 3:** Establish a framework to provide training for engineering programs to establish cultures that support healthy strategies for coping with painful emotional experiences.

In this paper, we summarize nascent insights from interviews conducted with faculty in the first full year of the investigation, which serve to address Objective 1. Reflecting our examination of interview transcripts from 14 faculty participants from two different university settings, we provide a summary of patterns related to how perceive and navigate and how they process the emotional experience of failing to achieve such expectations.

Professional shame in engineering

Shame is an extremely painful experience that can greatly influence interpersonal behavior [1, 11-14]. In the professional context, Huff, et al. [2] further specify the experience of shame through four primary features wherein "(1) [i]ndividuals perceive themselves to have failed to meet socially constructed expectations that are relevant to their identities in a professional domains; (2) individuals experience a painful emotional state amid perceived failure; (3) individuals attribute the failure to meet expectations to an inadequate whole, or global, self rather than a domain-specific feature of a certain identity; and (4) individuals within professional domains not only experience the emotional state of shame but also contribute to expectations that form the basis for professional shame to occur" (p. 415).

Previous research has illuminated how shame is constructed among undergraduate engineering students. Within the culture of engineering education, learning can be a painful experience for students as they navigate engineering through their positioning within their institution and a variety of social comparisons [3]. For example, Huff, et al. [2] found that in response to shame, individuals from structurally privileged social categories (e.g., White male engineering students) can perpetuate the cycle of shame for themselves and others through maladaptive behavioral responses associated with shame such as avoidance, disengaging, and externalizing the experience by redirecting their perceived failure to others, including their professors. The wider culture within engineering education is propelled through a combination of narratives told not only by students but also authoritative figures such as faculty members who perpetuate dominant accounts of expectations [4]. To address potentially negative outcomes of responses to professional shame such as anger, avoidance, and blame in the engineering context, the wider social world constructed within engineering must be challenged to reflect the role that faculty members play in cultivating and experiencing emotional well-being in engineering programs.

Summary of data collection and analysis

Capturing high quality data around individual faculty experiences of professional shame in engineering has been the primary focus of our investigation thus far. In the first year of the study, our approach has been guided by IPA methodology [5], which has used in several studies that seek to understand individual lived experience in engineering education [2, 6-8].

To recruit our participants for the interview, we used a study-interest questionnaire distributed to faculty in engineering programs at two universities with distinct contexts: a teaching-focused, faith-based university (FBTU) and a research-focused university (RFU). In this questionnaire, respondents were asked to identify their gender, racial and ethnic backgrounds, job title, and open-ended responses to two questions: 1) "What kinds of things do you think are expected of you as an engineering faculty member?" 2) Can you tell us about a time that you failed to meet these expectations?" By examining the responses to these questions, we enabled potential participants to become aware of the personal nature of the interview and enabled us, as investigators, to sample participants who demonstrated they could access their experiences of shame and describe them. We provided $100 as a stipend for their participation in the study. All procedures were approved by the IRB office of the principal investigator's university.

We have completed an initial round of interviews four engineering faculty members from FBTU and ten additional faculty RFU. Interviews ranged from 75 to 146 minutes and averaged two

hours in length. All interviews were audio-recorded, machine transcribed, and then meticulously re-transcribed by the first author, who is the primary analyst of the study. We removed any direct or indirect identifiers to protect participants' confidentiality. While the interviews have been non-standardized to allow the interviewer to remain focused on the lived experience of shame rather than a script of questions, we have consistently elicited descriptions related to personal identity construction, perception of sociocultural expectations as faculty members, experience of shame relative to those expectations, their responses to those shame experiences, and participant perceptions toward the study itself. We are carefully analyzing each transcript for descriptive, linguistic, and conceptual information around faculty members' lived experiences which have been forming the basis of personal experiential themes [5].

Preliminary insights

In this paper, we are careful to report overarching clear insights from our analysis while also allowing for us to remain open to the scope of robust psychological patterns of experience that may emerge throughout the complete analysis process. The following are two potent preliminary insights that we have found through our active investigation:

A tenuous relationship between identity and work. For all participants that we have interviewed, their professional work contains some elements that are relevant to their overarching identity. However, we find that faculty jobs involve aspects that are situated both within and outside of faculty identity and the experience of professional shame in similar situations is non-homogenous across the participants. Some participants chose to pursue an engineering faculty career because it aligned with their central identity, and for these, instances of failure were the basis of profound moments of professional shame. Other participants, however, buffered themselves from connecting their faculty role to their identity, and for these, shame was primarily experienced when expectations of work would cause them to compromise expectations in another domain of identity (e.g., family, spiritual).

Seeking student approval. While it is commonly expected that faculty may feel pressure to perform against expectations associated with their tenure and promotion, we found that faculty are indeed attentive to expectations that they may feel from students. For example, some participants exhibited healthy and functional coping mechanisms related to performance in the classroom such as confusing students or making mistakes during lectures. In contrast, some participants revealed feelings of frustration, shock, and disappointment during experiences dealing with student evaluations of their teaching. In both cases, their experiences were centered around pursuit of perfect student evaluation ratings whether they were internally or externally pressured to do so.

Experiencing communion and dissonance within institutions: Participants suggested that they generally received support from their institutions to thrive in their careers. However, participants also noted that they experienced friendships and communal experiences with colleagues in mostly positive manners, which moderated their emotional experiences in the context of their work. However, with these close relationships, participants described acute stress due to interpersonal disagreements or due to their felt expectations of overworking. While generally describing support from the institution, participants would turn inward to manage their emotions on their own with little external support at all.

Next steps and broader significance

After collecting initial interviews at these two research institutions, we will complete data collection for meeting Objective 1 by recruiting and interviewing faculty participants at a teaching-focused, private university (PTFU). In the second year of the study, as we continue in-depth analysis, we will then design and implement a series of workshops at each university that produce skills in recognizing and coping with professional shame. These workshops will continue over a multi-year span to allow for action-focused results to coevolve with the nascent research findings. Furthermore, throughout the course of engaging these participants at the three universities, we will conduct more interviews to understand how faculty's emotion regulation of professional shame is changing throughout the course of the workshops. We will analyze transcripts from these interviews through a sociopsychological perspective using a constructivist grounded theory (CGT) approach [9].

In summary, the outcomes of this overarching investigation are designed to demonstrate a strong commitment to transforming engineering cultures to nurture well-being and, thus, be inclusive to engineering faculty, staff, and students. The integrated educational activities carry an explicit commitment to transformation by proactively training faculty to cope with negative emotions using healthy strategies. In our ongoing work we aim to offer fresh insight into how engineering education cultures can be transformed into spaces of care and inclusion. This study is galvanized by a commitment to examining emotional phenomena, a theoretical lens often overlooked in extant literature, as experienced by engineering faculty, a group rarely investigated.

References

[1]   J. P. Tangney and R. L. Dearing, Shame and guilt. Guilford Press, 2003.

[2]   J. L. Huff, B. Okai, K. Shanachilubwa, N. W. Sochacka, and J. Walther, "Unpacking professional shame: Patterns of White male engineering students living in and out of threats to their identities," *Journal of Engineering Education*, vol. 110, no. 2, pp. 414-436, 2021, doi: 10.1002/jee.20381.

[3]   S. Secules, N. W. Sochacka, J. L. Huff, and J. Walther, "The social construction of professional shame for undergraduate engineering students," *Journal of Engineering Education*, vol. 110, no. 4, pp. 861-884, 2021, doi: 10.1002/jee.20419.

[4]   A. L. Pawley, "Universalized Narratives: Patterns in How Faculty Members Define 'Engineering'," *Journal of Engineering Education*, vol. 98, no. 4, pp. 309-319, 2009, doi: 10.1002/j.2168-9830.2009.tb01029.x.

[5]   J. Smith, P. Flowers, and M. Larkin, *Interpretative Phenomenological Analysis: Theory, Method, and Research*, 2nd ed. SAGE Publishing, 2022.

[6]   J. L. Huff, J. A. Smith, B. K. Jesiek, C. B. Zoltowski, and W. C. Oakes, "Identity in engineering adulthood: An interpretative phenomenological analysis of early-career engineers in the United States as they transition to the workplace," *Emerging Adulthood*, vol. 7, no. 6, pp. 451-467, 2019, doi: 10.1177/2167696818780444.

[7]   A. Kirn and L. Benson, "Engineering students' perception of problem-solving and their future," *Journal of Engineering Education*, vol. 107., no. 1, pp. 87-112, 2018, doi: 10.1002/jee.20190

[8]   M. S. Ross, J. L. Huff, and A. Godwin, "Resilient engineering identity development critical to prolonged engagement of Black women in engineering," *Journal of Engineering Education*, vol. 110, no. 1, pp. 92-113, 2021, doi: 10.1002/jee.20374.

[9]   K. Charmaz, *Constructing Grounded Theory*. Sage, 2014.

[10]   K. C. McLean and M. Syed, "Personal, master, and alternative narratives: An integrative framework for understanding identity development in context," *Human Development*, vol. 58, no. 6, pp. 318-349, 2015, doi: 10.1159/000445817

[11]   P. Gilbert, "Evolution, social roles, and the differences in shame and guilt," *Social Research: An International Quarterly*, vol. 70, no. 4, pp. 1205-1230, 2003.

[12]   T. J. Scheff, "Shame in self and society," *Symbolic Interaction*, *vol. 26*, no. 2, pp. 239-262, 2003, doi: 10.1525/si.2003.26.2.239

[13]   H. B. Lewis, *Shame and Guilt in Neurosis*. International Universities Press, 1971.

[14]   B. Brown, "Shame resilience theory: A grounded theory study on women and shame" *Families in Society: The Journal of Contemporary Social Services*, vol. 87, no. (1), pp. 43-52, 2006, doi: 10.1606/1044-3894.3483