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Navigating Careers in the Academy: Gender, Race, and Class

www.purdue.edu/butler
advance-butler@purdue.edu



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EDITORS' NOTE

Thriving in Universities: Gender, Colorism, and Age

Chris Sahley and Mangala Subramaniam*

Purdue University

We often hear women and women of color faculty members say, “we survived.” It is a phrase which implies that women do not thrive in the system, but merely survive. Recognizing and addressing the variations in women’s experiences within the university systems is key for success. The articles in this issue draw attention to the intersections of gender and/or colorism and/or age and their impact on experiences of faculty to thrive in the university system.

Two of the three articles focus on women and women of color and layout strategies/programs that can be considered by universities. The third article pulls us to consider the less-studied topic of age of entry into the academic workspace and its impact on the body of scholarly work acceptable to universities under the ‘research’ component required for tenure and promotion.

The first article by Subramaniam disentangles the dynamics of power rooted in difference based on the intersections of gender and colorism. As we noted in our note in the inaugural issue of the Working Paper series, the dynamics of power in academe reflect the society in which we live — one that is shaped by hierarchies of gender, race, and class. As an immigrant woman of color, Subramaniam draws on her experiences as well as that of other women of color in academia to discuss three key themes: gender stereotypes in enforcing the culture of niceness; colorism and non-conformance to elements of culture of niceness; and administrative leaders’ response to non-conformance. The paper lays out key strategies that institutions such as Purdue can adopt and implement to address these issues. The strategies range from individual responsibility to ‘speak out’ to institutional responsibility to change by requiring educational workshops and leadership diversity.

In a related vein, the second article makes a case for a ‘cascaded’ mentoring program in computer science, that is building stronger connections between women in computing-across undergraduate students, graduate students, and faculty. The authors, Sands and Capobianco, call for combining the model of cascaded mentoring with celebrating faculty and university leaders – the “hidden heroes” of computing – thus enhancing the profile of these individuals within the university community and creating new role models for students to emulate. Sands and Capobianco argue that universities need to adopt both parts – cascaded mentoring and celebrating hidden heroes. Implementation of this two-part strategy will enable universities to

* **Corresponding Author:** Mangala Subramaniam, Department of Sociology, Purdue University, 700 West State Street, West Lafayette, IN 47907. Email: mangala@purdue.edu.

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increase representation of women in computer science departments which can also help to augment the culture in a way that it no longer is defined strictly from a masculine perspective.

The third article is a reflexive piece by Raghavan who also incorporates experiences of others who enter the academy after working in a non-academic setting. Universities benefit from such scholars as they facilitate diversifying the academic workforce by bringing new and nuanced perspectives. The author, Raghavan, raises several questions about late entry into academia and the need for systematic research to understand the complexities and challenges of the non-traditional pathway into the academy.

We are gratified by the response from faculty, staff, and students in the West Lafayette to the Working Paper series that was launched only a year back. We thank the editorial board members for their support, time, lively discussions, and commitment to the topics of focus of the Working Paper series. We are looking forward to the next issue of the series.

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Underpinnings of Colorism and Gender in the Culture of ‘Niceness’ in Universities

Mangala Subramaniam*
Purdue University

Most people in the US are familiar with problems of racial discrimination in a variety of realms including education and housing. But hidden in the process of racial discrimination is colorism. Colorism refers to color-based discrimination that is based on skin tone. Skin color has been used to polarize and classify humanity for almost 50 years since scholarship first explored the history of the establishment of groups based on skin color. A hierarchical stratification based on skin color exists because of the values associated with physical features. Skin color bias shapes experiences of women of color; especially dark-skinned women. Globally, dark skin is viewed as a liability.

Past work on colorism has drawn attention to its historical basis and the ways in which it is folded into race and hierarchical stratification (Hunter 2007; Glenn 2009; Feagin et al 2001). The colorism hierarchy is grounded in the notion that dark skin and white skin represent opposites such as cruelty (being aggressive, harsh) versus gentleness (being nice, smiling always). Such considerations have major consequences for the daily life experiences of people with dark skin who do not meet the standards of ‘niceness.’ How do the intersections of colorism and gender operate in both overt and covert ways to shape women’s experiences within universities? How are these experiences structured by normative understandings of ‘niceness’ that overlook differences among women?

Niceness is part of the larger issue of difference. I argue that universities need to be cognizant of difference in all forms – skin color, nationality, tone of voice (including high-pitched and loud voices), expression of feelings (excitement and/or disappointment), and overall expression of emotion. Difference is the hallmark of diversity and it is not only about demographics such as race or age but about the deviation from the normative and standardized ways in which one speaks or displays expression, what I call the culture of niceness (more below). Inclusion requires understanding, embracing such differences, mitigating, and mediating conflicts that arise from varying perceptions of such differences. We need to develop mechanisms for embracing such differences particularly within universities. Overlooking differences can significantly impact the success and retention of women of color. As discussed below, I extend Mohanty’s (1991) definition of women of color as people of African, Caribbean, Asian, and Latin American descent, and native peoples of the US often referred to as ‘new immigrants’ to include those of dark skin color.

* **Corresponding Author:** Mangala Subramaniam, Department of Sociology, Purdue University, 700 West State Street, West Lafayette, IN 47907. Email: mangala@purdue.edu.

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In order to address the above questions, I reflect on my experiences of about 15 years in academia; my narrative is interwoven with those of many others in different ways – those who understand my experiences; those who relate to my experiences as being similar to their own; some who may suggest I co-opt their experiences into mine despite the similarity or frame it as a ‘narrative’ similar to mine or that it is not compelling; and others who reject my experiences because they are plain ignorant or fail to consider them because it does not fit into what they see through their own lenses.¹ This essay is not intended to be an empirical (quantitative or qualitative) article, but I will derive hypotheses focused on faculty that can be examined in future systematic research and also recommend strategies to address such bias. For the most part we know about the biases and climate concerns of women and women of color faculty, and we need to consider what to **do** (implement initiatives for change).

As an immigrant woman of color, I pursued a PhD in sociology, which I came into via other disciplines (Physics honors with Math and International Development with an emphasis on economics). As I progressed through graduate school, I recognized the power of sociological ideas and approaches to explain the social reality of relationships, individuals, and institutions. These ideas allow for constructing knowledge about faculty experiences in the academy not by universalizing experiences but by learning and understanding differences beyond a mere superficial commitment. Even though my own experience cannot be universal, I defend my privileges in writing this essay as one that is a project, based on my knowledge, to be modified, criticized, and clarified vigorously by others. I cannot erase my experiences or the opportunities and challenges that they involve/d. However, what I can do is to bring to the forefront, if not to the center, experiences of women of color like me and be an ally to work through the knots of the hierarchical and structured social matrix within universities. I am not confident that this narrative will be well-received because naming or calling out colorism is often seen as not being nice. However, I firmly believe that this work will challenge many of us to consider issues related to faculty experiences in general and that of women of color specifically to open-up debates and pay attention to differences.

Colorism and Gender

As noted above, colorism has been operative for the past few decades (Hunter 2007; Glenn 2009) with foundations in the European colonial project; plantation life for enslaved African Americans, and the early class hierarchies of Asia (Hunter 2007). According to Feagin et al (2001), colorism in the US is broadly maintained by a system of white racism. The colorism hierarchy is grounded in the notion that dark skin represents savagery, irrationality, ugliness, and inferiority. White skin, and, thus, whiteness itself, is defined by the opposite: civility, rationality, beauty, and superiority. These contrasting definitions are the foundation for colorism.

For some people, the distinctive differences are based in the histories of colonialism wherein white skin is equated with greater power. Ronald Hall (1994, 1995, 1997) suggests that ‘the bleaching syndrome’ the internalization of a white aesthetic ideal, is the result of the historic legacy of slavery and colonialism around the globe. He argues that many African Americans, Latinos, and Asian Americans have internalized the colonial and slavery value systems and learned to valorize light skin tones and Anglo facial features. He understands this deeply rooted

¹ Narrative is a term used by sociologists (and sometimes by other social scientists and humanists) to capture the ‘story’ of the everyday life experiences of individuals. It is a positively used term.

cultural value as a cause of psychological distress and socioeconomic stratification. Yet, country of origin is not a proxy for colorism and that is because skin tone varies among women and men within countries such as in the case of India and South Africa or even the US where light skin tones are valued (cf. Glenn 2009). While experiences based on country of origin may vary, other differences such as immigrant status, speech, and expression persist unless they conform to the normative standard of ‘niceness’ (discussed below). I argue that these distinctions have major consequences for the daily life experiences of people of color – not only in terms of how they look but, in the perceptions and interpretations of their behavior as well. Colorism, like racism, consists of both overt and covert actions, outright acts of discrimination, and subtle cues of disfavor. It is no longer about race and ethnicity.

In her 1996 book titled, *The Shock of Arrival: Reflections on Postcolonial Experience*, Meena Alexander notes that as she walked down the street in Harlem, New York, she saw “no harm in not being white” but then she comments that she “is not black either...” (p. 66).

The racial lines of black and white have been complicated by the layers of immigrants who have entered and are remaking this country. And we are part and parcel of a world of complex, often fluid allegiances. Ethnicity in such a world needs to be recast so that our moving selves can be acknowledged. ... Who am I? When am I? The questions that are asked in the street, of my identity mold me. Appearing in the flesh, I am cast afresh, a female of color – skin color, hair texture, clothing, speech, all marking me in ways that I could scarcely have conceived of (Alexander 1996: 66).

The above excerpt implies that colorism is not only about race, but that it can have consequences for those within a single racial category such as variations in skin tone among those categorized as African Americans. In addition, the above experiential narrative draws attention to belongingness, such as do you belong in this academic space? It also calls for considering the ‘cultural’ meanings associated with speech and expression that are markers of difference. In the workplace including in a university setting, the markers of difference can be viewed, interpreted, and judged as deviating from the normative standards of what is appropriate and acceptable. The result is conflicts and complaints that are scrutinized using the normative standard leading to censoring, silencing, and isolating those who differ. Importantly, colorism intersects with other forms of difference to shape peoples’ experiences in universities.

Intersectionality of Differences

Scholars increasingly examine gender, race, and class as being intertwined and point to the need for studying these axes of difference in relation to each other, i.e., adopting an intersectional approach (Collins 1990; Crenshaw 1991; also see Choo and Ferree 2010). The book *Presumed Incompetent: The Intersections of Race and Class for Women in Academia* (2012) includes narratives of women in academe who have faced challenges grounded in sexism, racism and class-based subordination. Intersectionality takes account of status and power and focuses attention on how they contribute to systematic injustice and social inequality. Cho, Crenshaw and McCall write that intersectionality provides “a gathering place for open-ended investigations of the overlapping and conflicting dynamics of race, gender, class, sexuality, nation, and other inequalities” (2013: 788). In this way, intersectionality provides a more sophisticated approach to addressing questions of power and representation and suggests that diversity and inclusion involve more than counting bodies. The key point is that diversity that treats all difference as

benign misses the critical element of power and how relations of power are structured using an intersectional lens. A discussion of the intersections of difference, including colorism, is incomplete without explaining the term ‘woman of color.’

The term ‘woman of color’ designates a political constituency, not only a biological one. It is a sociopolitical designation for people of African, Caribbean, Asian, and Latin American descent, and native peoples of the US. It also refers to ‘new immigrants’ to the US (Mohanty1991). What seems to constitute ‘women of color’ as a viable alliance is a common context of struggle, rather than racial identification alone, against specific exploitative structures and institutions. I adopt Mohanty’s definition for women of color and include those of dark skin color in my consideration of colorism in this essay.

Colorism, Gender, and Culture of Niceness in Universities

Gender and colorism intersect in the structuring of relations of power which is visible in the ways in which people who are ‘different’ are required to conform to forms of behavior – the culture of niceness – which excludes what they have culturally known and internalized as appropriate.² According to the Thesaurus, ‘nice’ means being pleasant, agreeable, and friendly. Robin diAngelo (2019) in a recent article in *The Guardian* discusses niceness in connection with racism and as a contrast to kindness. She says, “it becomes essential for white people to quickly and eagerly telegraph their niceness to people of color. Niceness in these instances is conveyed through tone of voice (light), eye contact accompanied by smiling and the conjuring of affinities (shared enjoyment of a music genre, compliments on hair or style, statements about having traveled to the country the “other” is perceived to have come from or knowing people from the other’s community).” She notes that, “kindness is compassionate and often implicates actions to support or intervene.... Niceness, by contrast, is fleeting, hollow and performative.”

At the same time, being ‘nice’ has varying cultural meanings. Being nice is also a relational concept – in relation to whom and in what culture. Operationally, I define the culture of niceness as conformance to normative standards of behavior – expression, emotion, and language – familiar to the culture in the US, but one that is gendered, racialized, and colored as I discuss below. Non-conformance is penalized in subtle, covert, and overt ways but the form and severity of penalty may vary.

As I have noted above, this is not a data driven article. I rely on narratives of experiences – my own and what I have been told - to derive specific hypotheses about faculty (women, women of color, and men). Narratives serve as a means by which women give themselves voice, construct histories, and make meanings of their experiences. In order to protect my own self from attacks and accusations, I have not used quotes or verbatim comments and have also disguised the context to ensure that identities of those I have interacted with are not revealed. I discuss three key themes pertaining to the experiences of women of color: gender stereotypes in enforcing the

² Consider for example the *extensive* use of ‘thank you’ in this I have learned over time (perhaps assimilation). The phrase was a part of my vocabulary before I came to graduate school in the US. But my extensive use of the phrase when I return to India now has made family and friends point out to me that it is a misnomer in the culture I was born in and certainly with those you ‘know’ and are not ‘acquaintances’. What I am noting here is the cultural differences even in use of expressions.

culture of niceness; consequences of non-conformance to elements of culture of niceness; and administrative leaders' responses to non-conformance.

Gender stereotypes in enforcing the culture of niceness

In an initial step, the standards of niceness are gendered and can take stereotypical forms such as being assertive and authoritative is acceptable for men but not for women and which has been well documented in scholarship (cf. Vannoy 2001; Barres 2006 among others). Gender based norms regulate what men and women faculty can do. Relations of power structure what is expected and what one can do irrespective of professorial rank. I recall my experiences with a staff member who repeatedly challenged my ideas and authority in carrying out work within a unit. Such constant questioning of my authority and abilities was noted by others and pointed out to me as well. Initially I did nothing and when I eventually responded, it resulted in additional issues and complaints by others. My experience is similar to that of a tenured Caucasian woman faculty member who shared with me the constant resistance to her instructions by a staff assistant. Women in leadership positions are expected or even required to adhere to gender stereotypes of being submissive, in not exercising authority, and if they do not they are described as aggressive.

H1: Women are more likely than men to be challenged if they are not nurturing, smiling, and deferential (submissive) controlling for professorial rank.

Colorism and non-conformance to elements of culture of niceness

When gender intersects with colorism, additional characteristics come into play in the operational forms of the culture of niceness. They are about varying intonations of voices, the demeanor particularly being serious about standards and accomplishments, the ways in which requests are made, and perhaps even the fewer uses of 'please' or 'thank you' because of the different cultural meanings accorded to these imperative forms of verbs. The characteristics I am referring to are not about being rude or nasty, but about the pressure to assimilate³ to the dominant norms of forms of expression of emotion, gestures, and pitch of voice.⁴

Consider for example the reactions to the different expressions and emotions of women of color. The seriousness that some women of color convey in their interactions is described negatively as having 'rolled her eyes' or 'looks angry' (similar to the well-known description of the 'angry black woman') because they do not fit in with the normative notion of "niceness." Loud voices in excitement or despair are interpreted as 'shouting' or loud hearty laughter as lacking in niceness. Asking a question or clarification of a person in authority is viewed suspiciously, and disagreement or difference in opinion has negative consequences for the woman of color. For

³ Assimilation is the process whereby individuals or groups of differing ethnic heritage are absorbed into the dominant culture of a society. The concept of "assimilation," as originally formulated came under serious attack in the 1960s, mostly due to its ethnocentric and normative formulation.

⁴ Variations in expressions of emotion across cultures and transnationally are well documented. Several years back, I had assigned a story from the Pulitzer prize winning book of short stories, *Interpreter of Maladies*, by Jhumpa Lahiri as a reading for an undergraduate course on gender and multiculturalism. While the crux of the story is about immigrants' lives across borders, the students were interested in discussing the expression of emotions by the characters because it was distinctly different than what they were familiar with. Perhaps our faculty, staff and graduate students need such education.

example, only after I became a full professor did I publicly mention that I did not attend events/gatherings because as a vegetarian there was no main entrée I could eat.

Non-conformance to the culture of niceness standards has serious consequences for the daily life experiences of women of color faculty, such as being challenged about the legitimacy of their knowledge and authority, being denied requests for routine assistance pertaining to their work, and negative interpretations of their expressions. For example, a woman of color's request for assistance from an office staff person to enable her to do her work was misinterpreted as demanding work; she (faculty member) could expect no help from the unit head. Similarly, an assistant professor's rude email questioning the ability and knowledge of a tenured woman of color evoked no response from a head. By not calling out such incidences, administrators fail to use the opportunity to address concerns with colorism and at the same time convey a lack of value for the woman of color which further isolates her (more on isolation below).

When women of color question errors in work or the quality of work being not up to the mark or express frustration, it is interpreted as threatening people or as making demands that are unacceptable. These emotions do not fit into the standardized notion of 'being nice.' When these women are constantly challenged, they are expected to remain 'nice' even when provoked; expressions of frustration by women of color do not fit into the dominant repertoire of niceness. Men, in general, and men of color are typically viewed as legitimately being assertive and/or demanding of timely and quality work from staff or students (Vannoy 2001). Men's demand for high standards of work is explained as high-achieving while similar demands by women of color are noted to be insensitive. Based on these arguments, I propose the following hypotheses.

H2: Women of color, irrespective of professorial rank, who are serious about their work and accomplishments are more likely to be described as aggressive and/or angry than other women and men.

H2a: Men of color who are assertive and serious are less likely to be challenged than all women (including women of color).

H3: Expressions of emotion such as frustration/despair or joy by women of color are more likely to be described as loud or aggressive but the same emotions expressed by other women are viewed as being feminine irrespective of professorial rank.

Administrative leaders' responses to non-conformance

Isolation, and lack of value and support from unit heads increases the vulnerability of women of color who are uncertain about with whom they could share their experiences with, who would understand what they are going through, and from whom they could seek support. When heads do not value and are not supportive of women of color, others, such as faculty colleagues, staff, and students, follow the cue and become dismissive of them. Moreover, it enables the majority, often the dominant group, to exert power to define and explain interactions and actions differently than her (woman of color) description and explanation. A faculty member of color noted that perceptions, interpretations, and explanations of 'others' (the dominant majority including faculty colleagues, staff, and students) about actions of a faculty member of color are considered more relevant and real than her own explanation or motive. These experiences also convey a lack of value for scholars who look, talk, and behave differently. Such vulnerability is visible in subtle and overt attacks by faculty colleagues, staff, and students. Even graduate students of color are aware and often make it known that power rests with the 'white' woman or

man and not a woman of color faculty member. All these experiences have an impact on integrating faculty who are 'different' and has implications for their health and academic success.

H4: Women of color are more likely to be repeatedly 'pushed back' on their words and expressions by faculty, staff, and students compared to men and other women faculty thereby provoking them to react in frustration that are then viewed as conflicts.

H5: Women of color are less likely to receive support from unit heads or administrators when conflicts arise compared to men and 'other' women faculty.

H6: As women of color are isolated and may be embroiled in conflicts, they are more likely to find ways to step into positions outside of units or leave the institution to protect their health and sanity, often with the encouragement (subtle and overt) from the head.

I have heard suggestions from an administrator about finding ways for a woman of color to move out of a unit because she is unhappy with the immediate environment, as well as of a unit head sending a job ad to a woman of color faculty member conveying a negative message that she does not belong and so must consider leaving. This perhaps becomes a way to then describe the unit as having solved problems of climate and claiming that all is well. In reality, moving women of color out of units fails to meet the goal of inclusion or equality. Moreover, moving to outside units such as to administrative positions does not completely alter the experiences of women of color. "...the price that women of color pay may get heavier with increasing visibility, authority, and power within the institution" (Niemann 2012: 450). This quote reflects my own experiences as the legitimacy of my knowledge and the ability to make decisions about my responsibilities have been frequently challenged and questioned overtly and subtly by faculty colleagues, staff, and students.⁵

At the same time, it is plausible that women of color may conform and assimilate into the dominant culture of niceness, which allows for selective inclusion. Selective inclusion diminishes efforts to recognize difference and thwarts the disruption of the dominant norms of niceness. It reinforces existing relations of power in which women of color faculty are subordinate. Consider my own case of not being able to articulate my concerns with choices of food at events when I was an assistant or an associate professor for fear of being viewed as a non-conformant or as being a questioner.

The above discussion also draws attention to belongingness – do you belong in this academic space – as well as to the 'cultural' meanings associated with speech and expression that are markers of difference. In the workplace, including in a university setting, the markers of difference can be viewed, interpreted, and judged as deviating from the normative standards of what is appropriate and acceptable as niceness.

⁵ This has been my experience as a faculty member, which became more pronounced in my current position as the Director of the Butler Center (since August 2017). Yet, I have made every effort to pursue the mission of the Center and made it a central transformative unit on campus. I can do the work because of the enormous support that has come from allies and specific individuals in positions of authority. It has required much resilience on my part which most faculty who compliment the efforts of the Center are probably unaware about. Without the support, I doubt I would have lasted beyond a semester. I note this knowing fully well that it conveys my vulnerability and tentativeness.

Writing this essay related to colorism and gender as tied to the cultural ‘baggage’ of skin color, speech, and expression is not about portraying myself as a ‘victim’ – it is about agency; the ability to speak and enable change. For me, being different was somewhat isolating which some colleagues described as being private, perhaps without a critical lens into why that may be. But I did rely on good mentors and a few close-knit friends to learn and grow. Soon after I accepted the current administrative position, I recognized the dearth of women of color in positions of authority. I have no role model who would understand my challenges in exercising authority or provide me advice. But I have heard about the experiences of many women – of all shades of skin color – which made me think more deeply, about my experiences, than I had done in the past. Some of the women who shared their experiences with me expressed mixed sentiments; some are hopeful of interventions that can bring change and others are skeptical that despite my earnest efforts I will be pushed back by the system and be compelled to give up. So, my current position has provided me opportunities to hear about others’ experiences which overlap with my own and at the same time, has posed challenges about how I can enable a process of change to alter these experiences. At the same time, being mostly outside my disciplinary unit, I have found allies from across colleges (faculty across ranks and administrators) who have heard me with seriousness and have shown tremendous willingness to learn, understand, and consider alternatives. These strands of hope cannot be overlooked or minimized in the experiences I have narrated above. How do we begin to consider change at the individual and institutional level to address the above discussed experiences?

Strategies to Address Bias Based in Colorism and Gender

Both individual and institutional strategies are essential for addressing concerns rooted in colorism and gender discussed above. I strongly believe that we continue to spend institutional resources in studying and documenting concerns, such as climate, and **do** little to address and mitigate concerns in bold and practical ways.

At an individual level, it would be meaningful for women and women of color faculty members to seek mentors within and preferably outside of their own units too. While those within the unit are more likely to be familiar with procedures and norms in the unit which can be helpful, external mentors and advocates will have experience with academic processes broadly and be knowledgeable about issues and options across colleges and at the university level. In an effort to make this possible, the Susan Bulkeley Center for Leadership Excellence will make available a coaching and resource network (CRN) for women assistants and associate professors starting in spring 2019.

The CRN will be diverse and include women and men faculty members. A professional development workshop on coaching will be offered through the Butler Center to those in the CRN. Thereafter, the CRN members will meet twice a semester to discuss concerns and share suggestions. Any woman assistant or associate professor at Purdue may select a maximum of two ‘coaches’ from the network to work with. The ‘coaches’ are expected to meet regularly (monthly basis at least) to discuss issues that the woman assistant or associate professor is confronting. The Butler Center will provide some discretionary funds to faculty members who serve on the CRN in recognition of their work and time.

At the institutional level, inclusionary practices are central to everyday interactions amongst all constituencies on campus. These practices are also structured by the processes the university puts in place and so closely examining processes and structures is key for enabling a diverse and inclusive campus community. Such scrutiny must be intentional – an intentionality that entails purposeful strategies combined with evidence-based research on how to avoid falling back into the status quo; and understanding why the process did not end as intended. It is about disrupting the usual practices in ways that compels the campus community to focus on the inclusion goal. It requires leaders (unit heads and administrators) to take bold initiatives rather than refrain from ‘rocking the boat.’

Over a period of time, institutional mechanisms addressing both structure and process in policy can influence efforts at inclusion. For instance, we need closer examination of hiring *processes* to determine why we do not have diverse pools or fail to hire women of color; after all hires by units are approved at a higher administrative level. There is an urgent need for scrutiny and greater transparency in processes for resource distribution – ranging from teaching or research assistants (assignment of research assistants may vary across disciplines), course releases (other than through a grant or sabbatical), and criteria for merit raises especially as salary disparities based on gender persist.

Educational and Actionable Strategies

In less diverse (gender and color) institutions, there is an urgent need to educate leaders and ensure their commitment to recognize and understand difference – unit heads, deans, and other administrators - and then hold them accountable. In the past 6-8 months, I have encountered administrators who have shown their willingness to learn and understand issues of difference, privilege, and what it means to be a woman of color in a predominantly ‘white’ institution. The traditional educational strategy is workshops which can include relevant topics in depth such as gender, colorism, difference, and equality. The content of the workshop requires careful thought particularly as we lapse into conventional categories of difference such as gender and race without incorporating concerns of colorism. All influencers – unit heads and senior level administrators – must be invited to attend and complete the workshop. They set the tone for how women faculty of color are supported, valued, and integrated so that they can thrive. A well-wisher once commented to me, “you survived the system and are a full professor.” We do not want to merely survive, we want to thrive in this system and have an impact (make a difference), and perhaps that is why we set high standards for ourselves and others.

As discussed above, women of color faculty are more likely to be vulnerable when they lack support from unit heads (department and college). While many unit heads claim they ‘know’ (or study) about gender, race, and colorism, they severely lack the understanding of experiences and concerns of women of color and particularly the complexities of what they encounter. (The 2015 and 2018 COACHE clearly show women and women of color faculty concerns with the immediate – department – environment/climate.) Merely appointing a woman as a head of a unit does not address concerns of gender and colorism and so all unit heads must be exposed to workshops. Extending the point made above about professional development workshops, I suggest emphasis on content about difference, colorism, and conflict resolution for unit heads. Having external agencies conduct such workshops will be worth the investment. Possibilities include *The Privilege Institute* or even individual scholars who offer such workshops. Investing

in preventing and mitigating concerns related to colorism and conflicts that may arise would contribute to saving scarce resources – money, time, and stress. One option is to make available workshops on conflict resolution (negotiation and compromise). The Butler Center has already begun exploring options for such workshops to be offered in 2019 but costs are a concern.

In addition, assessing the impact of the workshops can provide key insights into how they make a difference or not. These impact assessments must be designed, conducted, and analyzed systematically by faculty who have methodological expertise and knowledge of needed tools. It does not end here. The assessment must be used to inform modification of the workshop or even action needed on the part of the institution at different levels (unit, college, university).

Education can occur through other mechanisms as well. For instance, individuals in positions of authority should carefully consider concerns with colorism and gender irrespective of status. The assumptions that professorial rank alone confers power flies in the face of understanding the effects of intersections of gender and colorism on everyday experiences of women of color with faculty colleagues, staff, and students. As noted by Barres (2006), “Academic leadership has a particular responsibility to speak out, but we all share this responsibility. It takes minimal effort to send a brief message to the relevant authority when you note a lack of diversity in an organization or an act of discrimination” (p. 136). This also implies that leaders must “be color conscious, not color blind” (Niemann 2012: 453). Accountability of those in leadership positions should be at the center of these efforts.

Education is possible through daily interactions if there is greater diversity at various levels within a university. So, enhancing leadership diversity can provide a substantially broader point of view, with more sensitivity and respect for different perspectives which is invaluable to any organization, including a university. Resources and support are a must to enable the leader to function and thrive – support not merely in words but in terms of translating interventions into practice. I want to reiterate here the point I included above, “...the price that women of color pay may get heavier with increasing visibility, authority, and power within the institution” (Niemann 2012: 450). Supporting women of color as they move to positions of power can be key and critical for change because if attacked they are most likely to refrain from working toward the much-needed goal of respect of difference and inclusion. In addition, recognizing and rewarding those who do the ‘work’ – emotional labor – and spend time supporting and advising women of color can go a long way in enabling change.

Involving the university community to raise awareness and suggest mechanisms for addressing colorism can be powerful. While there are a wide variety of interest groups and committees on campus, women of color who do not fall into the conventional racial category of under-represented minorities lack the space or forum at which they can share their experiences, be understood, and expect action. There is a need for concerted effort to bring these ‘voices’ into forums and committees for conversations as well. I believe an intentional goal should be to involve women and women of color faculty (including URM) in the entire process and decision-making related to initiatives that are intended to address the concerns of women faculty. They should be included not only to provide input as a committee member but perhaps as co-chairs of committees or as members that shape initiatives, implement them, assess their impact, and develop recommendations. This will allow for not only representation of women of color but a

sense of power and ownership of initiatives. I suggest such a partnership between administrators and faculty of color to create a meaningful dialogue that will represent transparency and foster success.

Conclusion

In this essay, I reflect on my experiences and those of others in relation to mine to draw attention to the intersections of colorism and gender that shape experiences of women of color in universities. These experiences are well-documented in scholarship (cf. the book *Presumed Incompetent*). Discussing ‘difference’ beyond demographic characteristics to include ‘cultural’ meanings associated with speech and expression that are markers of difference, I argue that such differences are often viewed, interpreted, and judged as deviating from the normative standards of niceness. Such differences can work to the advantage/disadvantage of some over others. The resulting conflicts and complaints are scrutinized using normative standards leading to censoring, silencing, and isolating those who differ. More importantly, the experiences significantly impact their productivity because they may have less access to resources or even reduced energy and motivation to even survive. For the institution that has invested in hiring women of color, retention and success of all women and women of color must be a priority.

The strategies I suggest above emphasize the institutional level rather than the individual level only. That is because institutional transformation is longer lasting than merely addressing the concerns of any one or more individuals. The system and structure need to be fixed, not the individual. And it is not about survival, but about making it possible for everyone to thrive in this system. Institutional responsibility to address the concerns of women means doing what is necessary. If not, the value of their contributions is diminished and the conflicts that arise over non-conformance can be destructive.

Future research should rely on systematic data, quantitatively and/or qualitatively, to examine the hypotheses I have derived. Qualitative data from carefully designed research can provide key insights into the propositions raised above and perhaps offer additional suggestions and strategies for consideration by universities. In addition, discerning the ways in which in-group differences - difference based on nationality - which is not discernible by skin color alone - and disciplinary differences that I have left unexplored would require examination.

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Cascaded Mentoring for Gender Inclusion in Computer Science

Phil Sands and Brenda Capobianco*

Purdue University

Over a ten-year span, from 2004 to 2014, the proportion of undergraduate degrees awarded to women in computer science (CS) declined from 25.1% to 18.1% (NSF and NCSES 2017). This continues a trend downward from a peak of 37% in 1985 (NCWIT 2018). These decreases have been attributed to a myriad of factors, including access to and encouragement with computers in the home, early exposure to computer science in schools, stereotypes about computer science, and a lack of role models who are women (Sax et al. 2017). Many attempts have been made to address this downward trend through small-scale interventions in curriculum and instruction. As an example, first-level undergraduate CS courses have made changes to the domain of computing projects to become more aligned with the interests and motivators of the women in the course (Margolis and Fisher 2002; Rosser 1990). Another small-scale intervention has been to address the classroom environment in order to remove signifiers that tie computing to other items of interest to young men, such as science fiction or video games (Cheryan, Plaut, Davies, and Steele 2009). Despite the good intentions of these approaches, it is becoming clear that they are not enough to reverse the decline in interest by women, and that an institutional change is necessary. For example, intervention programs in STEM, such as Purdue University’s NSF-funded Louis Stokes Alliance for Minority Participation (LSAMP) and the Alliance for Graduate Education & Professoriate (AGEP) programs are initiatives that provide a range of mentoring experiences for underrepresented undergraduate students. Additional programs including Purdue’s Pair Mentoring, Mentees and Mentors with Purdue’s Women in Engineering, and Mentoring @ Purdue are strategically designed to support women and minority graduate students in different colleges. In this article, we make an argument based on two specific related interventions. First, we will advocate for the implementation of a mentoring model across undergraduate, graduate, and early career levels with the goal of building stronger connections between women in computing. Our second recommendation will be to celebrate faculty and university leaders – the “hidden heroes” of computing – thus enhancing the profile of these individuals within the university community and creating new role models for students to emulate. In combination, we believe that these two initiatives can positively impact perceptions of computer science across the university, and in turn, will lead to increases in participation rates for women in computing.

Computer Science Identity, Self-efficacy, and Belongingness

Before exploring our proposed interventions, it is important to understand the underlying factors that these interventions are aimed at affecting – computer science identity, sense of belongingness, and self-efficacy. Each of these factors, as we will discuss in detail, plays a role

* **Corresponding Author:** Phil Sands, Department of Computer Science, Purdue University 305 N. University Street, West Lafayette, IN 47907. Email: psands@purdue.edu.

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in whether women in computer science will stay engaged with the field. In a meta-analysis of studies focused on participation of women across STEM disciplines, Cheryan et al. (2017) identified a number of factors that contributed to a lack of interest in computer science. This included negative stereotypes about the participants in computer science, negative stereotypes about women's abilities within those fields, and a lack of relatable, female role models within computing. Negative stereotypes impact a student's identity within the field, and a lack of role models can impact their sense of belongingness. Cheryan et al. (2017) also noted that the outcomes related to self-efficacy were mixed across studies. Within computer science, however; there is evidence that self-efficacy for women in computing is much lower than it is for men (Beyer 2014). There are a number of interventions that could conceivably address identity, belongingness and self-efficacy, but we will illuminate why the combination of mentorship and localized role models were specifically selected to address these factors.

Identity is defined as the way in which an individual sees a domain, like computing, as being related to who they are (Baumeister 1997). A student can have multiple identities, for which their scientific identity is but one part. As a student engages more deeply with her scientific pursuits, her identity in that area is likely to increase (Brickhouse, Lowery and Schultz 2000). Looking specifically at gender differences, a study of introductory-level computer science undergraduates found that women showed significantly lower self-efficacy and lower perceptions of their roles within computer science (Dempsey et al. 2015). The authors further found that women's interest in pursuing computing careers was strongly linked to their belief in their ability to perform in computing classes and their self-identification as computer scientists. Considering these effects on identity, it follows that any intervention in computer science that aims to improve the participation rate of women should focus on building student identity in computing.

Closely related to the construct of identity is the concept of belongingness. A person's sense of belongingness is his/her feeling of inclusion in dominant groups of the culture within which he/she exist (Baumeister and Leary 1995). A lack of belongingness in the dominant culture in academic fields has serious repercussions. Students who do not feel as if they belong are significantly less likely to ask questions in class or attend faculty office hours. On the other hand, students with a higher sense of belonging are more likely to persist through the major. A study of multiple retention factors in CS found that a student's personal values and sense of belonging were more critical to student retention than their perceptions regarding the usefulness of the degree to future success (Giannakos et al. 2016). Belongingness in CS is strongly related to the environment itself, and a successful intervention to address the inclusive atmosphere for women in CS must be substantial enough to change how the student perceives this atmosphere.

The final factor that we wish to address is self-efficacy. A person's self-efficacy beliefs are the extent to which they feel confident that they can accomplish a given task (Bandura 1977). In the context of academic pursuits, self-efficacy is highly correlated to student success in a number of fields, including in computer science (Honicke and Broadbent 2015; Lishinski et al. 2016). It is known that self-efficacy and academic performance have a reciprocal relationship, which suggests that women in CS need to experience academic success to build on their academic self-efficacy. Addressing the environment in computer science such that women are able to build on successive positive experiences will in turn positively affect their self-efficacy. While it is only one aspect of maintaining CS identity and a sense of belongingness, it is thought that self-

efficacy within a domain helps to enhance both of these factors (Trujillo and Tanner 2014). We next introduce mentorship and role modeling as a means of addressing computer science identity, sense of belongingness, and self-efficacy.

Mentoring for Recruitment and Retention of Women in CS

One way that identity and sense of belongingness can be developed is through perceived similarity with those already identifying within the domain. The impact of seeing similar others helps build identity in a number of ways. Women that have yet to form a strong computer science identity need to see other women who have been successful in the field in order to inoculate themselves from existing stereotypes in the field (Dasgupta 2011). A number of stereotypes in computing suggest that masculine perspectives and interests are important to participation and success in the field (Cheryan et al. 2009). By establishing the existence of successful women and connecting them to other women in computing, the magnitude of the effect of the stereotypes within computing can be reduced. Finding similar others also provides students with models of successful behaviors within computing. Those with whom the student perceives similarity act as role models in identity development, and through emulating these role models, a student can show increased self-efficacy and self-confidence (Finzel, Deininger, and Schmid 2018). The challenge is in identifying individuals to serve as role models for women in CS.

An important pathway for connecting developing computer scientists with appropriate role models is through mentoring relationships. According to Chesler and Chesler (2002), mentoring is a developmental relationship whereby an experienced person provides both technical and social support to a less experienced person. Mentoring provides a promising individual with an established figure in the field of interest with whom he/she can see similar or desirable traits, be counseled through unfamiliar circumstances, gain acceptance with the field, and find confirmation about established beliefs (Kram 1983; Rosser 2012). For an undergraduate student who is entering an academic field, this can be invaluable in helping the student to navigate the unknown culture within that field. This is particularly true in computer science, where undergraduate students enter the field with a wide range of experience levels and understandings of what computer science entails. In addition to the general variation in first-year computer science student experience, the dominant culture can also provide challenges for undergraduate students that do not feel as if they belong. Women in computer science programs have pointed to the computing culture as having reduced their sense of belonging and, in many cases, this has led to their departure from the major (Lewis, Anderson, and Yasuhara 2016). The role of a woman mentor goes beyond guidance in computer science. This person can serve as a representative in computing who has had success in spite of the dominant culture. As noted before, this person can then inoculate the mentee against computing stereotypes as she explores her interest in computer science.

Thus far, we have considered the benefits of mentorship to the mentee, but there is ample evidence that the individual acting as the mentor experiences positive benefits as well. One significant benefit comes from the mentor's increased satisfaction in both their professional outcomes as a result of their mentee relationship, and with the organization that supports their engagement in mentoring (Ghosh and Reio 2013). Considering that women faculty and graduate students in computing are also underrepresented, the mentor roles can serve to reinforce their

desires to remain within the computer science department. Another benefit for mentors in computing is the opportunity to express their passion for the field through teaching mentees. By sharing their knowledge and demonstrating their competence, the mentor can improve their self-efficacy within computing. These benefits for both mentors and mentees require a commitment to engaging in best practices for mentoring, which we explore in the next section

Mentoring Best Practices

There are several different models of mentoring from which to discuss best practices. These range from traditional (two-person, mentor-protégé relationship) to alternative (mentoring community of diverse helpers or distributive mentoring) approaches (Chesler and Chesler 2002). More traditional models tend to favor a unilateral relationship based on varying levels of experience, gender, and interests (Packard 1993; Seymour 1995). Alternative approaches focus more on building broad, diverse, and collective networks of mentors that are often supported if not endorsed by an organization (Seymour and Hewitt, Tierney and Bensimon 1996). Underpinning each of these models is the emphasis on cultivating support, guidance, and trust between the mentor(s) and mentee. While all these approaches have merit, we will focus our discussion of best practices on those models that are recommended specifically for working with women in STEM fields. Furthermore, we highlight approaches that take the current concerns regarding limited existing women faculty and graduate students into account when making these recommendations.

Looking specifically at best practices for mentoring women in STEM fields, we consider the following factors: proper mentor training, collaborative learning experiences, peer mentoring circles, and cross-gender mentoring. A successful mentoring program is dependent highly on the training of mentors to engage in best practices from successful mentoring programs (Pfund et al 2006). This includes issues of communicating effectively, understanding students from diverse backgrounds, and reviewing various mentoring styles. In computer science, one successful mentor training model that addresses these items can be found in Mount Holyoke's MaGe program. Working collaboratively between peers and in the mentor-mentee relationship can aid in both the freedom to communicate concerns about expectations and interactions within the shared domain, and in improving career competencies (Gorman et al. 2010). This was deemed particularly important given that perceptions were that performance expectations for women were higher than they were for men in academic environments. Thomas, Bystydzienski and Desai (2014) encouraged the development of peer mentoring circles as a specific solution for women in STEM fields. These circles would provide a collective group that could address the shared needs of the participants while also unearthing trends that could be seen across individual experiences. Chesler and Chesler (2002) argue for the use of cross-gender mentoring relationships in STEM fields due to the less frequent presence of women in STEM departments.

One specific reason for this is due to the power-differential that exists in these departments for women faculty members. In these situations, the authors warn against falling into the pitfalls of typical male-centered mentoring programs by making the following recommendations. First, they suggest that the purpose of the mentoring be clarified so that informational and technical aspects do not subsume psychosocial aspects. Second, they emphasize that the role of the mentor should not be strictly to challenge the mentee, and that instead the mentor should structure their efforts to help form collaborative efforts to accomplish in-domain tasks.

Utilizing these best practices provides a solid base for mentoring women at multiple academic levels within a computer science department. Beyond this, however; we wish to present an approach that can serve as a connective tissue between participants. This approach is one that will allow participants to build their self-efficacy within computing while also providing a long-term connection to mentoring practice at multiple levels of participation. We will explore this mentoring model in the next section.

Cascading Mentorship at the University Level

With mentorship playing an important role in the development of identity, sense of belongingness, and self-efficacy for women in computer science, we now consider our first recommendation for institutional change. To maximize the recruitment and retention of women across K-12 education, undergraduate and graduate studies, and at the faculty level, we emphasize the importance of a multi-level cascading model of mentorship. In this model, undergraduate students who have been supported as mentees transition to become mentors for the group of students that follow them. Cascaded mentorship was implemented at the university level in a study of a service learning course focused on engaging undergraduate students in the transformation from learners to teachers (Kafai et al 2013). This course was designed as an alternative representation of computing, working against stereotypes of antisocial students engaging in isolated, non-creative work. The undergraduate students were trained as teachers and mentors, and then were sent to local high schools to implement a series of introductory computer science lessons. At the end of two years, both mentors and mentees reported higher interest and higher self-efficacy in computer science. The researchers emphasized the shift in roles as the major factor in the positive outcomes of the study. The undergraduate mentors relied on their recent experience as new computer science learners to inform their work addressing the needs of the high school mentees.

Some computing departments may struggle to find significant numbers of graduate students and faculty members to build a strong mentorship model. In 2017, women made up 15.1% of faculty members, 18.3% of the PhDs awarded, 26.1% of the Master's degrees awarded, and 19.0% of the Bachelor's degrees awarded in computer science in the United States (Zweben and Bizot 2018). In addition to the challenge presented to successful mentorship programs from low numbers of potential participants, there are also a number of costs associated with taking on the role of mentoring students. Generally speaking, the most significant cost to mentors regardless of gender is the significant amount of time that must be dedicated to mentoring practice, at the expense of teaching and research (Morales, Grineski, and Collins 2017). For women in STEM departments, additional costs can include the magnification of successes or failures through mentoring due to the imbalanced power structure in a department, the reduction of time for focusing on their own careers, and an overload of mentees due to their lack of peers (Ragins and Scandura 1994). These concerns are challenging to address but based on the aforementioned peer mentoring circle recommendation (Thomas et al. 2014), one possible solution would be to encourage faculty and graduate students in CS to engage in group mentoring. In addition, these groups could invite women from similar departments to participate in these mentoring circles, particularly in areas where this connection may benefit these outside faculty members. The increased load on women in computing should also be recognized from within the institution,

perhaps by providing increased stipends for taking on mentoring positions, or through travel support for women to participate in national efforts to engage women in computing.

An idealized version of cascading mentorship may feature faculty relationships with undergraduate and graduate students, relationships between graduate and undergraduate students, and an extension into the K-12 schools. At each level, there are opportunities for participants to be both mentors and mentees. The benefit of connecting women across levels and providing mentoring support for graduate students, undergraduate students, and pre-college students is that it further bolsters the pipeline of students and begins to systemically change the culture of computing at the university level. The major implementation challenge originates from the diminishing number of women in computing at higher levels in the department. There are fewer upper-level undergraduate women than lower-level undergraduate women, fewer graduate women than upper-level undergraduate women, and fewer women faculty than graduate women. The challenge at the institutional level becomes the ability to find role models at the top level of the chain. In the next section, we look at ways in which the cascading mentorship model can be enhanced through the promotion of the “hidden heroes” of computer science departments.

Faculty “Hidden Heroes”

Establishing a mentoring model with upperclassmen aiding underclassmen, or undergraduates aiding K-12 students is only one component of our proposed program for addressing the underrepresentation of women in computing. Specific role models have proven to be essential for the recruitment and retention of women in STEM fields (Rosser 2012). To address the lack of role models for women in computing, we contend that the next step must involve recognizing the existing university faculty as the “hidden heroes” of computer science. Why use the expression, “hidden heroes” to describe the women of the computer science faculty? To answer this, we will first look at the ways in which the roles of women in science generally, and computer science specifically, have been historically marginalized.

The history of women in science whose contributions have been overlooked or undervalued is lengthy. Well-known stories, such as those of Rosalind Franklin and Barbara McClintock, serve as examples of insightful women whose work was not recognized in their time. In Franklin’s case, her work determining the molecular structure of DNA was subsumed by James Watson and Francis Crick. For McClintock, her many biological discoveries regarding chromosomal crossover in maize and transposition effects were not recognized until men found similar outcomes years afterwards. Many other women have toiled in anonymity, either due to explicit or implicit androcentrism in their fields. This list includes notables, such as Jocelyn Bell Burnell, whose discovery of pulsars in 1967 resulted in her supervisor’s Nobel Prize award in 1974 (Burnell would eventually be recognized by Nobel with the 2018 Breakthrough Prize), and Chien-Shiung Wu, who disproved the law of parity among atoms but was also excluded from the Nobel Prize award in 1957 that her collaborators received. Despite a modern educational culture that has worked to celebrate these women, it is likely that there are many others who have not received their due. This includes women working in academic settings across the world who are still facing challenges similar to those that obscured the work of the great women discussed above.

In computer science, the lack of representation of women at the more visible levels presents a major concern, particularly considering the need to present younger women with models for success within the field. The computer science community celebrates the work of Admiral Grace Hopper, whose work on computer compilers has allowed for a wider range of people to program computers. Other celebrated computer scientists from history include Ada Lovelace, who conceptualized general purpose computing for Charles Babbage's Analytical Engine, and women like Katharine Johnson and Dorothy Vaughan, who worked for NASA to calculate orbital paths for the Apollo program. These contributions are vital, but in isolation are not enough to dispel the notion that computing is only for men. How should computer science departments work to alter these perceptions? One strategy would be the use of near-peer mentoring models. This strategy, in which mentors are similar in age, background, and personality to their mentees, has been successful in reducing the effect of limited visibility for potential role models (Tenenbaum et al. 2014). This aspect of the cascading mentorship model however does not provide role models who have accomplished success at the highest level of computing. In order to enhance the university computer science community, a CS department needs to leverage their most vital existing resource. This means celebrating the women that are already on campus, working as graduate students and faculty members. In other words, commending women in computer science who have overcome inequalities in the classroom and/or workforce, persisted in the academy, and accomplished academic milestones. These women, regardless of years tenured, are highly accomplished within the field, and have had to persevere through the gender-imbalanced world of graduate computer science to reach their current successful positions. These women include early to late career faculty as well as graduate students in computer science. They possess two essential qualities for providing role models for aspiring computer scientists: a recognizable high-level success in computing, and a localized, approachable presence in the university community.

Women in the computer science faculty need to be celebrated as the "hidden heroes" of computing. By sharing these women's success stories, it provides others in the academic community with a model to emulate at the intersection of computer science and feminism. In addition, the celebration of women faculty validates the unique challenges faced by women in computer science and allows the "hero" to speak of the persistence and determination that allowed her to achieve at such a high level. As students move through the computer science program, they will undoubtedly face their own challenges. With knowledge of a "hero" who had provided direct or indirect support to the student, these challenges may seem less daunting. The "hero" becomes the role model that so many women in computing need to help develop their computing identity. For a university computer science department, looking inward for these hero role models establishes the importance of these women to their computing culture.

Conclusion

Existing practices to address the underrepresentation of women in computer science have been limited in their impact. While small-scale mentorship programs have shown signs of success among a number of other limited interventions, we argue that true change will be the product of a committed effort to engage mentors and mentees across multiple levels of the computer science department. Helping with the impact of this process will be the intentional promotion of the "hidden heroes" among computer science faculty. These approaches are rooted in efforts to address the need to inoculate women in computing from existing stereotypes, and also the

benefits of improved computer science identity, an empowered sense of belongingness and self-efficacy. As if this was not enough of an argument for institutional change, there is an added benefit to committing to a panoptic transformation. Celebrating women in computer science and implementing a cascading multi-level mentoring program demonstrates a commitment to the women currently at the university, and in turn, creates an actively inclusive environment that will attract more women to the department. Over time, the representation of women in the computer science department will increase, and this can help to augment the culture in a way that it no longer is defined strictly from a masculine perspective. This strategic commitment to fundamental change is not trivial, and the benefit to all participants in the university community is significant enough to merit the investment.

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Reflection: Late Entry into the Academic Workforce

Malathi Raghavan*
Purdue University

How late is too late to begin an academic career? How often is this question even being asked? To whom does it matter?

My personal quest

I was well into my 40s when I had to make a decision to leave a one-of-a-kind position in my field to return to academia. I was never too far away from the academic world in the first place, but due to a combination of life events and personal responsibilities, I never whole-heartedly allowed myself to aim for a tenure-track (TT) position. I was content to be a Research Academic staff member at a large, research-intensive university and then to work in the area of Accreditation and Certification in a professional, not-for-profit environment. A majority of my working years until now have been filled with concepts, concerns, and strategies about health professional education. So without giving it much serious thought, tenure, the holy grail of academic lifestyle, had not been on my list of career goals for several years.

But then an academic opportunity arose that appeared to be a perfect fit for me. A new position in outcomes assessment, a relatively new area of work in veterinary medicine, was created at Purdue, where I earned my Ph.D. It was as if I had been accumulating the skills for just such a position for the previous 10 years of my career. It would not be for a TT position, but a clinical-track (CT) position, a first of its kind within the framework of university faculty responsibilities. In the health sciences, there has been an increasing trend of non-TT faculty positions and so the track being clinical did not faze me. I would not come to fully comprehend until later, the nuanced differences between TT and CT positions, but during decision time, I was only focused on the fact that it was a university faculty opportunity. I began to seriously consider starting my work life all over again. Only the question of how late is too late weighed heavily on my mind.

I have known a handful of people leaving academia as a mid-career move (and thereby leaving their hard-earned tenure behind). But the only ones I knew who *entered* academia in their 40s were those who started a Ph.D. later in life (i.e., a mature or returning graduate student). Typically, they completed their Ph.D. within about three years, helped by their real-world work experience (and steely self-discipline), and were well-positioned internal candidates in the days when budgets weren't tight. They had no gap years between their Ph.D. and their faculty position. But how many did I know who, as sole providers for their families, leave distinct positions in their fields to re-enter academia? None personally. What did I remember of academic demands? Was I ready for yet another learning curve? What uncertainties would I

* **Corresponding Author:** Malathi Raghavan, College of Veterinary Medicine, Purdue University, 625 Harrison Street, West Lafayette, IN 47907. Email: raghavm@purdue.edu.

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possibly be facing? Not knowing who I could turn to for advice, I did then what I have learned to do in times of doubt: put my life in the context of those who came before me, even if I knew them only as public figures. Or as hidden stories behind data points.

And so I googled. I hit PubMed. I searched the archives of the *Chronicle of Higher Education*. All in the hopes of acquainting myself with late-entry academics and understanding their unique challenges and career longevities and trajectories. I wasn't sure what I was expecting to find but I was surely disappointed to find few systematic studies on older faculty aspirants, applicants and entrants. No reports on successful proportions or survival rates, as far as I could tell. Either there were strong but isolated voices raising the possibility of ageism in academic hiring (McKee 2014; Cowen 2015) or there were successful stories, positive 'case-studies' of those who had made it, presumably, despite some odds (Gregoire 2016). I was grateful for both, but neither helped me with my situation. The alleged discrimination against older applicants for TT positions did not apply to me (even if only because I had internalized the message and removed myself from TT applicant pools, effectively not contributing to data that could help systematically answer this concern at a population level). Nor had I done anything that gave me permission to compare myself with those who were superstars in their field. I was merely looking to understand the survival curves of the average and above average older entrants beginning their academic careers relative to the younger freshly-minted Ph.D.s. with ties to their academic advisors and mentors still in place.

Age-related trends in academic workforce

To be fair, there were several motivating articles and compiled lists online about successful late bloomers (Dance 2017). But the late-blooming academics showed up only among the lists of Nobel laureates! (Corbyn 2011). I knew enough to recognize that most were working in their fields, if not on their specific Nobel-Prize winning projects, for years and years before attaining that level of recognition and reward. However, equally depressing were the reports that “on average, scientists become less productive as they age” (Over 1982).

The online forums for research career questions, followed by answers from members, were the most discouraging because they revealed hundreds of people like me searching for answers and settling for anecdotes and opinions from strangers, most of whom were disillusioned with their own research careers taking a circuitous route, via multiple places.

A 1993 National Study of Postsecondary Faculty suggests that new faculty¹ in the fall of 1992, like senior faculty² then, earned their highest degree in their early thirties (31-32 years) but did not assume their fall 1992 position, on average, until six years later compared to 2-3 years later for the senior faculty (U.S. Department of Education 1998). In other words, there was a gap of about 6 years between degree and new faculty even in 1992. But whether the 2-3 year gap in the senior faculty was a 'period cohort' effect or a survivor effect, I could not tell, as it was cross-sectional data. New faculty, more than senior faculty, had prior work experience, and

¹ New faculty were defined as those who in the fall of 1992 were in the first seven years of their academic career.

² Senior faculty were defined as those who in the fall of 1992 had eight or more years of full-time college career experience.

specifically, prior work experience outside academe and outside teaching, before beginning their faculty positions in the fall of 1992.

At a time when diversity of thought and experience is valued in academia and non-traditional students are welcomed into colleges, we have little updated data and no longitudinal studies that I could access to understand age-related outcomes in academic career. Either age at entry into academic careers has so little variability, or is a highly sensitive issue, that outcome studies are hard to design, or it elicits little to no curiosity or concern to the established academic community. But it was vital for me to understand how I will fare in my new path. I learned that the average ages for attainment of tenure and full professorship are 40 and 55 years, respectively (Chou 2015). While faculty tenure and promotion achievements were available as institutional reports from universities, age at entry, unlike gender and minority status, was rarely parsed (Penn State 2014).

My Colleagues, My Networks

Dr. Patricia Martens, a senior researcher at the University of Manitoba, Winnipeg, Canada, entered the research world in 1999 at the age of 47 when she earned her Ph.D. in health sciences (Silversides 2015). This did not stop her from earning some of the highest recognitions and awards in Canada even though her research career was relatively short. She died of mesothelioma at the age of 62 in the year 2015 (Silversides 2015). With over 300 published articles, reports, book chapters and abstracts, and 400 conference presentations, she became a fellow of the Royal Society of Canada and of the Canadian Academy of Health Sciences and was invested into the Order of Canada. Dr. Martens received the R. D. Defries Award, the highest award from the Canadian Public Health Association, and was named a Justice Emmett Hall Laureate for contributing to health research.³

Pat, as she was known to all at the University, started out as a high school chemistry and mathematics teacher. She also had years of parenting, farming (together with her husband, she worked a 640-acre farm) and community-building experiences under her belt before starting on her Ph.D. (Silversides 2015). Having been active on the La Leche League, she proposed her master's and her Ph.D. thesis projects studying barriers and designing an intervention, respectively, to promote breastfeeding within a First Nations community. Silversides (2015), while highlighting Pat's cheery, positive attitude, quotes Ms. Monique Vielfaure Mackenzie, executive director of Regional Health Authorities of Manitoba, as saying, "She had a knack for making whoever she spoke with feel like the only person in the room...She was never intimidating, despite all her accomplishments." Indeed, I, the author, was personally at the receiving end of Pat's kindness and support when she saw value in my idea of evaluating a unique, long-term, first-of-its kind legislation in Winnipeg for a specific public health outcome. She supported my initiative with necessary funds from her salary award and collaborated with me, at my request, in her capacity as a senior co-investigator. We published two manuscripts together (Raghavan et al. 2013; Raghavan, Martens, and Burchill 2014) one of which has been downloaded, in its entirety or as an abstract, 43,432 times since publication in 2012 (Raghavan et al. 2013). I represent only one of the many researchers, students, mentees and others whose careers she has touched. I choose to believe that her habit of going out of her way to help others came from her lifelong experiences of working with people from different backgrounds. Her

³ Dr. Martens' biographical details are drawn from Silversides (2015).

entry into academia appears to have been enhanced considerably, not diminished, by its relative lateness.

It has been just a little over two years since I took the leap and re-entered the academic world. Most other new faculty are at least 10 to 15 years younger than me; some are likely younger by a full generation gap. However, among the faculty are those who entered academic workforce later in life *and succeeded* in attaining tenure or promotion (if on non-tenure track). I have been lucky enough to meet one or two of them and listen to them speak about their unique challenges and triumphs. A tenured faculty member at Purdue speaking on a panel about ‘Differences in Academe’ shared her experiences as a late entrant into her TT life. It was liberating to affirm that I was not alone. But I also listened to conversations from people who had anecdotal evidence about how age could have been a factor in those who did not attain tenure and were not around to tell us what went wrong.

Recently, I spoke with Dr. Krishna Nemali who moved from industry into a TT position at Purdue in 2016.⁴ I wanted to know what motivated him to make a mid-career change to a different employment sector, what he hoped to accomplish as an academic, and what challenges he expected to face, if at all. I was especially curious about any differences in the way we navigate our new responsibilities, given that he is in TT, I am in CT; he came from industry, I from a non-profit organization. Whether our gender and personality shaped our expectations and influenced our experiences was also at the back of my mind.

First, about the similarities. For both of us, Purdue’s advertised opportunities were the first positions we aimed for this time around and succeeded in being the top candidates. Earlier in life, just after completing our PhDs, we kept our options open for different reasons, despite our interest in TT, and accepted the first offer each of us received. We are both primary bread-winners and have also moved around a lot across geographical locations. It would be safe to assume that in choosing to apply for a position in a small university town we had hoped to settle down in one place.

However, despite acknowledging that industry is ahead of academia in discovery activities and in the availability of funds and resources, Dr. Nemali did not think one employment sector is superior to the other. For him, academia and industry are on par with each other and complement each other. He had collaborated with academics even while working in industry and felt comfortable knowing he had his academic networks. I, on the other hand, having never lost the idea of the ‘hallowed halls of academia’ from my student days, perhaps set myself up for some unnecessary, early internal anxiety, if not stress. Dr. Nemali also experienced very little lag time between arriving at Purdue and beginning his program. This has not been my experience. As my position was newly created in an upcoming area of educational administration (outcomes) and I am the first (and only) person in my unit, it took my department and me a few months to get me into the thick of things. Having no grants to transfer, as I was not doing full-time research in my previous position, and having not explored the option of start-up funds, it took me a while to identify topics of mutual research interest and get started on sustainable projects. Dr. Nemali specifically emphasized how industry experience helps one to identify resources needed as an

⁴ I thank Dr. Nemali for setting aside time to be interviewed by me and for giving me permission to write about his career transition and to use his real name.

early independent researcher and it occurred to me that I did myself a disservice by not having some industry or more networking experience under my belt.

Academia attracted Dr. Nemali because of the potential to work with relative freedom in multiple ways, given his responsibilities in research, extension and teaching. From choosing need-based research, the scale of the research questions ranging from small to big; interacting and training clients; and being able to teach and train students – he can be involved in all of these, unlike in industry. Academics’ work, he points out, is “more broadly useful, not always profit-motivated.” His goals are two-fold: establish an industry in Indiana in his area of expertise – controlled-environment agriculture – and attain tenure and promotion at Purdue in a fast-track. But he is not prone to worrying about it. He is of the mindset that he should pace himself to do what is expected in his program, and tenure will follow. He is happy for the departmental support he has received. His advice to his peers on TT is to spend a majority of their time focused on activities valued by tenure committees.

Asked about challenges specific to academia, he said, without missing a beat, “work-life balance.” Dr. Nemali finds it puzzling that while living in a small-town, the balance he once achieved in a bigger city eludes him. But then again, he explains, industry spent resources on its employees’ personal development and work-life balance. During annual assessment, a quarter of his annual goal setting focused on personal development issues. Other challenges, in general, for those with early careers in industry include lower average salaries in academia and far more concern about finding funds for research. Yet one of the advantages of coming to academia with several years of industry experience is that the perceived gap in experience and workplace hierarchy between senior and junior faculty members is minimized.

Taking Pat’s and Dr. Nemali’s experiences together, I am left with these questions: is the start of an academic career at a mature age truly a handicap or at least a perceived disadvantage? Are gap years between attaining a PhD and accepting a faculty position a liability? Should we even rely on anecdotal evidence to feed our fears and biases regarding age as a limiting factor? While I take strength in my colleagues’ stories in building myself up, in the long-term I plan to conduct a systematic study that could potentially and unequivocally answer this question for academics who insist on evidence base. I am planning to use narrative approaches such as case studies and feature articles profiling late entry academics, in conjunction with systematic data collection, to elucidate factors associated with success at tenure or promotion using quantitative methodology and analysis. The latter approach will require long-term planning and access to multi-institute data.

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Biographies of Authors

Brenda Capobianco is a Professor in the Department of Curriculum and Instruction and holds a courtesy appointment in the School of Engineering Education and an affiliated appointment in Women's Studies at Purdue University. Dr. Capobianco holds a B.S. in biology from the University of Alaska Fairbanks, M.S in general science from Connecticut Central State University, and Ed.D. from the University of Massachusetts Amherst. Her research interests include girls' participation in science and engineering; teacher's engagement in action research; and science teachers' integration of the engineering design process to improve science learning.

Malathi Raghavan earned her degree in Veterinary Medicine from the Ukrainian National Agricultural University, Kiev; M.S. degree in Environmental Conservation from the University of New Hampshire, Durham; Ph.D. in Comparative Epidemiology from Purdue University. Dr. Raghavan has published in areas of epidemiology and public health, medical education and medical college admissions in Canada, and has worked on Accreditation and Certification issues, with international stakeholders, for the American Veterinary Medical Association. She returned to Purdue in August 2016 as a Clinical Associate Professor and Director of Outcomes Assessment and Data Management with responsibilities ranging from administrative to scholarly and teaching activities.

Phil Sands is a doctoral candidate in Educational Psychology and Educational Technology at Michigan State University. His research interests are primarily in the area of computer science education, motivation in computer science, and issues of broadening participation. More specifically, he is interested in the role of mentorship in the development of computer science identity for underrepresented students in computing. Currently, Phil serves as the K-12 Outreach Coordinator for the Department of Computer Science at Purdue University. Previously, Phil worked as a K-12 statistics and computer science teacher in Michigan and Maryland, and also as a software engineer.

Mangala Subramaniam is Professor of Sociology and Chair and Director of the Susan Bulkeley Butler Center for Leadership Excellence at Purdue University. Dr. Subramaniam's research addresses social inequality in global contexts - gender, race, caste, and class issues and their intersections – and the dynamics of state and social movements. Her current projects include the politics of HIV prevention and environmental justice, particularly water rights. Dr. Subramaniam's most recent research area is higher education. She examines faculty satisfaction, recognition, and climate within universities with emphasis on gender and race.

<https://web.ics.purdue.edu/~msubrama>