Beauty and Academic Career

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ABSTRACT

We examine the impact of beauty on the academic career success of tenure-track accounting professors at top business schools in America, and show that beauty plays a significant role. Specifically, after controlling for gender, ethnicity, publication history, work experience, and quality of alma mater, more attractive professors obtain better first school placements post-PhD and are granted tenure in a shorter period of time. These findings are broadly consistent with behavioural theory which predicts that facial attractiveness irrationally affects the perception of performance characteristics. Interestingly, there is no incremental benefit of attractiveness for the career progression from associate to full professor. This finding is consistent with the notion that the role played by beauty in promotion diminishes when the individual's ability and competency become apparent over time.

Keywords: Beauty, accounting, career, labor market.

Beauty and Academic Career

I. INTRODUCTION

The value of beauty and its capacity for generating positive evaluations and impressions has long been the subject of discussion. A rapidly increasing body of literature in economics and sociology documents that beauty generates positive evaluations and impressions. In comparison with the less attractive, individuals with good looks are better liked (Walster, Aronson, Abrahams and Rottman, 1966; Kleck and Rubinstein, 1975; Feingold, 1990) and receive more favourable treatment in hiring, performance rating and promotion decisions (Landy and Sigall, 1974; Dipboye, Arvey and Terpstra, 1977; Landy and Sigall, 1974). Studies in the fields of economics and management have explored the effect of beauty on business success and document an association with favorable traits of firms' top management (e.g., CEOs), such as confidence (Mobius and Roensblat, 2006) and happiness (Hamermesh and Abrevaya, 2013), which in turn contribute to higher shareholder values[1]. This widespread preference for physical attractiveness is commonly known as the "beauty premium" (Hamermesh and Biddle, 1994), and its potency is such that that even those who associate with beautiful persons gain in perceived stature (Sigall and Landy, 1973).

As previous studies have shown, the beauty premium exists in many social contexts and across a wide variety of professions, leading us to question whether it is caused by discriminatory or perceived valuable skills. On the one hand, physical attractiveness affects people's perceptions of intellectual competence and general mental health (Eagly et al., 1991; Feingold, 1992; Langlois et

[1] For example, Halford and Hsu (2014) document that firms enjoy higher returns around their announcement of hiring more attractive CEOs and higher acquirer returns upon acquisition announcements.

al., 2000; and Hosoda et al., 2003). Beautiful individuals are considered more socially competent (Miller, 1970; Dion, Berscheid and Walster, 1972; Eagly, Ashmore, Makhijani and Longo, 1991). On the other hand, the literature also shows the link between beauty and positive life outcomes to be largely discriminatory and driven by the favorable treatment from others (Dion, Berscheid and Walster, 1972; Hamermesh and Biddle, 1994; Mobius and Rosenblat, 2006). Given the mixed evidence, what drives the beauty premium remains a controversial issue.

It is this debate that motivates us to re-examine the question in a new, previously unstudied, setting. In this paper, we explore whether and how the beauty premium exists in academic career progression. Specifically, we examine whether beauty is associated with the quality of the first placement, the time to tenure, and the time from associate to full professor. There are several reasons to care about answers to this question. First, the vast majority of existing labor market-based beauty research is cross-sectional, focusing on the impact of beauty at a specific point in time. Little is known about the impact of beauty over the course of a person's career.[2] In this study, we extend the prior literature by assessing the impact of beauty on a professor's career progression. Second, compared to industry jobs, performance evaluation criteria on research and teaching in academia are relatively clear and objective, making the hiring and promotion decisions less vulnerable to behavioral biases. If a "beauty premium" persists, this suggests that either academia is not as "fair" as we expect or the "perceived valuable skills" explanation dominates. Third, from the perspective of PhD students and junior faculty members, while it is difficult to change their

[2] One notable exception is that of Sala et al. (2013), who use the Wisconsin Longitudinal Study data to assess the impact of facial attractiveness on people's socio-economic standing over one's life. The authors find that attractiveness matters for both genders and that its impact on occupational prestige is as important at the beginning of one's career as it is at the end of one's career, with no cumulative effects over one's working career.

looks, understanding whether the bias exists and where it comes from can help them act to mitigate or avoid such biases.

We select accounting professors in US research institutions for this study, for several reasons. First, all PhD accounting programs in the US have a very clear mission of placing students to academic institutions. For this reason, each school only admits a few PhD students per year (i.e., usually between 2 to 4) and upon graduation, almost all accounting PhDs are placed at post-secondary educational institutions.[3] This placement strategy differs markedly from PhD programs in science, engineering, and economics, where most graduates find jobs in industry, and mitigates the self-selection concern that the physical appearance of industry orientated PhD graduates differs systematically from those who remain in academia. Second, accounting is a well-structured discipline in business schools. Since teaching performance and research productivity are relatively easy to measure, the quality and quantity of research can be controlled more effectively. Finally, the relevant study and work experience of this paper's authors allows us a better understanding of the nuances involved in the hiring and promotion process.

We expect a positive association between beauty and indicators of academic success. An academic career is a long journey. The quality of the first placement, the smooth process to tenure, and the time it takes to be promoted to full professor all suggest success at different stages of one's career. However, a candidate's intellectual and social competencies are not readily apparent within a short time period. At the time of graduation, most newly minted PhDs do not yet have a top tier

[3] While our main sample only consists of those individuals who are in tenure track positions as of 2015, in supplemental analysis we extend our sample to include all individuals who graduate with a PhD from a top 50 US business school during the years 1974 to 2016. It consists of 1,376 additional PhD graduates placed at schools of varying quality. Very few individuals leave academia. Only 1.3% of these graduates go straight to industry or to lecturer positions after completing their PhD studies. We collect the information from annual Hasselback Accounting Faculty Directories.

publication and much of their work has been under supervision of, or co-authored with, others. As such, typical signals, such as the supervisor's recommendation letter and the list of publications/working papers, could be very noisy proxies of one's research ability and may drive hiring committees, consciously or unconsciously, to factor in attractiveness as a proxy for ability, resulting in more attractive candidates being placed at higher quality schools.

We download the photos and CVs of accounting faculty members from university websites for the *Businessweek* Top 50 2015 MBA School rankings, and the top 50 2015 Brigham Young University's (BYU) Research Publication rankings. We then supplement this list with accounting faculty from 31 lower tier US business schools, bringing our complete sample to 93 US business schools[4] yielding a total of 714 photo/CV combinations, from which we extract information concerning the variables we need to control for. These variables include education background, employment history, and information about publications and teaching. For each photo, we take advantage of M-Turk, an Internet sourced study participant pool run by Amazon.com, to rate photo attractiveness. Each photo is rated, on average, by 25 MTurk workers.

We first examine the association between beauty and the school ranking of a PhD candidate's first job placement. The school's ranking is based on i) *Businessweek* Top 50 MBA School rankings for 2015; or ii) Brigham Young University's (BYU) Research Publication rankings for 2015. After controlling for a number of personal characteristics and academic pedigree, we find a strong positive impact of perceived attractiveness on the school ranking of a PhD candidate's first job

[4] These lower tier institutions include the schools that some faculty have ultimately moved to such as Auburn University, Case Western Reserve University, Miami University, Saint Louis University, and University of Tennessee. There are a number of *Businessweek* and BYU universities for which photos and CVs could not be obtained. These exceptions include South Carolina and Thunderbird for *Businessweek* rankings, and Temple, Florida International, Pittsburgh, Rutgers, Arkansas, and South Carolina for BYU rankings.

placement. In other words, more attractive PhD candidates are placed to more highly ranked schools. Mediation analysis reveals that approximately 39% of the relationship between beauty and first placement quality is mediated by the number of flyouts a PhD candidate receives while on the job market. These findings show that while part of the relationship between beauty and labor market outcomes may be justified, the majority of the benefits accruing to beautiful individuals are discriminatory in nature.

Next, we examine the association between beauty and time to tenure. Because tenure is not always achieved in one's first placement school, individuals are forced to move if they fail to meet the tenure requirement of their current schools after the tenure clock runs out. Meanwhile, it is likely that some individuals voluntarily move to other schools if competing schools are exploiting the uncertainty of the tenure process and lure away good researchers. Therefore, when examining the association between beauty and time to tenure, we consider three scenarios: i) when tenure is achieved at a professor's first school placement; ii) when tenure is achieved at a professor's second school placement when there is a voluntary early departure from the first school; and iii) when tenure is achieved at a professor's second or subsequent school placement and leaving the first school is a forced decision. We find that for scenarios i) and ii), there is a negative association between beauty and time to tenure. In other words, it takes less time for more attractive professors to achieve tenure. However, for scenario iii), we find that the time to tenure is not affected by their perceived attractiveness. We further conduct mediation analysis and find that the number of unique coauthors on all published papers, the number of workshop presentations and the number of citations partially mediate the relationship between beauty and time to tenure. The majority of the benefits still accrue to the direct beauty-time to tenure relationship.

Further, we examine the association between beauty and the time to full professorship. Similar to the results for those professors who obtain tenure at their second or subsequent school, we find that the time to full professorship is not affected by beauty. These findings are consistent with the notion that sufficient time has passed for these individuals to demonstrate their ability. Physical attractiveness is no longer a behavioral bias.

Our study contributes to economics and psychology literature in several ways. First, through studying the direct impact of attractiveness on career success in academia, we address the question whether the beauty premium is due to behavioral bias or perceived valuable skills. No published study to date has explored the impact of physical attractiveness on initial job placement and career progression in tenure-track research positions.[5] We are the first to show that when job candidates are seeking their first position as an assistant professor, hiring committees and tenure and promotion committees rely on attractiveness as a proxy for expected future potential. We are also among the first researchers to explore the differential impact of beauty over the course of a person's career. Early in the academic's career, the beauty premium is "alive and well". However, as their career progresses, the beauty premium disappears and is not a determinant of the promotion from associate to full rank professor. Remarkably, the market does not seem to correct for the pattern over time, as the same pattern observed for those professors obtaining tenure and full professorship

[5] Sullivan and Dubnicki (2012) explore the determinants of the quality of first placement based on 849 economics PhD graduates in 2011. The working paper appears to be related to our study, but there are significant differences between the two. Only 50.5% of the PhD graduates in Sullivan and Dubnicki's sample are placed in economics departments. For non-academic placements, rankings are assigned arbitrarily. For example, placement to a business school equals the placement university's economics department ranking plus five; non-tenure track job or postdoctoral position equals the placement university's economics department ranking plus 15; World Bank, International Monetary Fund, and Federal Reserve Board (6.4% placements) are equivalent to the 40th best economics department. The sample also consists of 31.9% non-US placements. With all this noise, they find some evidence that attractive, white, female candidates place at better institutions.

in the 1980s and 1990s continues to be seen for those professors being promoted more recently in the 2000s.

Second, we take advantage of this unique setting to investigate the differential impact of perceived competency and perceived trustworthiness, in addition to perceived beauty, on career success. Recent papers have found that perceived competency or trustworthiness predict some career outcomes better than perceived beauty. For example, Dilger et al. (2015) find that research performance is not influenced by attractiveness but especially by perceived trustworthiness. As another example, Graham et al. (2017) find that competent looks, but not attractiveness or trustworthiness, are reflected in CEO compensation. CEOs have a long history to reveal their talent before their hiring, which is different from our setting. We find that attractiveness subsumes the impact of perceived competency and trustworthiness in all career outcomes[6]. Our findings are consistent with the notion that the "halo effect" relates to attractiveness, not to competency or trustworthiness.

Third, we take advantage of the progress in technology to improve our methodology. Only a handful of large-scale surveys have collected independent evaluations of physical attractiveness (Sala et al., 2013). Most rely on a single rating of a respondent's attractiveness either by the interviewer, the respondent, or a teacher. We add a new level of rigor to the literature, gaining more objective ratings of respondents' attractiveness by using photographs and having them rated, on average, by 25 unrelated individuals. This treatment is expected to reduce measurement noise significantly.

[6] The relationship between beauty and perceived competency/trustworthiness is relatively strong, with correlations between 0.4 and 0.5 for all samples.

Fourth, our findings have important practical implications. While only a very small percentage of the population become tenure-track professors at America's business schools, a large percentage of the population is educated by these individuals. As such, prospective students would do well to know the differential impact of attractiveness in the selection and promotion of professors as attractive professors may not necessarily be better researchers and educators. Senior faculty should keep this in mind the next time they hire a rookie PhD or decide whether or not to grant tenure to an assistant professor. Aspiring PhD candidates should note that while they may have little ability to change their attractiveness, it may have a significant influence on their career progression. While the benefits of beauty disappear in the latter stages of one's career, this may be "too little, too late" for less attractive professors as the benefit of obtaining an initial job placement at a top ranked school has long lasting effects.

The remainder of this paper is organized as follows. Section 2 discusses the related literature and develops the hypotheses. Section 3 describes data and research design. Section 4 presents the results of the empirical analysis. Section 5 concludes.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Background and Related Literature

Broadly speaking, there are two general perspectives on the observed relationship between attractiveness and success. These perspectives are: i) neoclassical - attractive individuals are "better" than their less attractive peers (i.e. smarter, socially competent); and ii) behavioral - attractive individuals are no "better" than others and succeed due to discrimination on the part of society (Graham et al., 2017).

As an example of support for the first perspective, the empirical findings of Kanazawa and Kovar (2004) led them to reason that beautiful people are more intelligent when the following four

conditions are present: 1) more intelligent men are more likely to attain higher status; 2) higher-status men are more likely to mate with more beautiful women; 3) intelligence is heritable and 4) beauty is heritable. Large nationally representative samples from both the United Kingdom and the United States supply Kanazawa (2011) with additional evidence that attractiveness and general intelligence are positively associated. Mocan and Tekin (2010) find that unattractive individuals have a higher proclivity for committing crime. The authors suggest beauty may positively impact human capital formation since attractive individuals participate in more activities that build confidence and leadership skills. These skills, in turn, can lead to increased success in the labor market. Conversely, for unattractive individuals lack of human capital formation can lead to an increased likelihood of school suspension and a lower grade point average. Further support can be found in Feingold's (1992) meta-analysis of the literature, where social skills, freedom from social anxiety, opposite-sex popularity, and sexual experience are correlated with independent ratings of physical attractiveness (e.g. Lerner and Lerner, 1977; Pilkonis, 1977). More recently, in an experimental labor market where employers determine the wages of workers performing a maze-solving task, Mobius and Rosenblat (2006) find that 15% to 20% of the beauty premium is transmitted through higher self-confidence.

In terms of the second perspective, Dion (1973) finds that preschoolers discriminate differences in facial attractiveness, showing a distinct preference for attractive over unattractive children as potential friends. In another study by Clifford and Walster (1973), randomly selected fifth grade teachers evaluate a child's potential based only on the child's report cards and his/her photograph. The results confirm the researchers' expectation that physical attractiveness affects teachers' judgements in rating children's social potential and intelligence. Benson, Karabenick and Lerner (1976) make use of a novel research setting in which hundreds of graduate school applications are

left in public phone booths in a large metropolitan airport. The applications only differed in the photograph of the applicant attached to the application. As predicted, delivery of the application was facilitated more for attractive than unattractive persons.

Turning to academia, a few studies have explored the beauty effect in the classroom. Among them, Hamermesh and Parker (2005) find that moving from one standard deviation below to one standard deviation above the mean instructor attractiveness level is associated with a one standard deviation increase in the average class effectiveness rating. Consistent with this finding, Rosen (2018) finds a positive relationship between instructor quality and attractiveness.

Other studies find similar results in work settings. For example, Landry et al. (2006) investigate the influence of attractiveness in the context of several charitable fund-raising strategies, finding higher attractiveness of female solicitors is associated with both increased contributions and participation. Most recently, Ruffle and Shtudiner (2015) investigate the role of physical attractiveness in the hiring process. They send over 5000 CVs, in pairs, to approximately 2600 advertised job openings. For each pair, one CV is without a photo whereas the other one includes a picture of either an attractive or a plain-looking individual. Employer callbacks to attractive men are significantly higher than to plain-looking men and to men with no photos. Surprisingly, perhaps due to jealousy, attractive women did not enjoy the same beauty premium.

Overall, the findings provide consistent evidence that many benefits afforded to attractive individuals are discriminatory in nature, supporting the second perspective primarily and the first perspective to a lesser degree. Our brains seem genetically predisposed to subconsciously form an attractiveness stereotype, associating beauty with positive attributes. This phenomenon is commonly known as the "beautiful-is-good" halo effect of attractiveness (e.g. Miller, 1970; Dion, Berscheid and Walster, 1972; Langlois, 1986; Eagly et al. 1991; Feingold, 1992; Jackson et al,

1995). While a number of theories provide slightly different explanations for this discrimination, they are all broadly consistent with systematic biases of the mind (Kahneman, 2011).

2.2 Hypotheses Development

Humans are fundamentally social beings (Baumeister and Leary, 1995). We try to preserve the integrity of our social group and status when selecting new group members. Consider the impact of our evolutionary past on the inner workings of the brain, where many social interactions were brief and provided limited information. The same can be said of many social interactions we encounter in today's modern world. Not surprisingly, then, we often rely on first impressions to select new group members (Todorov et al., 2005; Bar, Neta and Linz, 2006; Willis and Todorov, 2006).[7]

At the time of completing a PhD, most graduates do not yet have a top tier publication and their work may be heavily influenced by mentors and senior co-authors. Recommendation letters from the graduate's thesis supervisory committee are typically favorably biased, making it difficult for prospective employers to assess a candidate's true potential.

A significant component in the hiring process is the campus visit, where candidates present their thesis paper and meet individually with faculty members. A large part of the interview experience is "visual", much like that of a presidential candidate performing on television, and this

[7] A famous example that highlights the rise in importance of appearance was the first presidential debate between Richard Nixon and John F. Kennedy. Following the presidential debates, radio polls favored Nixon while television polls predicted that Kennedy would win. Ultimately, Kennedy won the presidency with many pundits attributing the win to Kennedy's superior image on television; as Kennedy was not better than Nixon on the actual issues. Druckman (2003), in a controlled experiment, confirmed these claims using the original historical files and his students as listeners/viewers. While radio listeners were the only participants in his study to consider issue agreement when assessing leadership effectiveness, television viewers were the only participants to consider perceptions of integrity when evaluating these same candidates.

is where attractive individuals excel. In their experimental setting using undergraduate students and local townspeople, Mulford et al. (1998) find that attractive individuals are advantaged in two ways; first, they have greater opportunity for social exchange; and second, these exchange opportunities are with others who have a higher propensity to cooperate once the interaction is consummated.

In a setting using elementary school children, Lerner at al. (1990) find that physical attractiveness had its maximum influence on teachers' judgments about students' academic competence at the beginning of the school year, when the teachers had less personal behavioral information about the students. As such, it may be that teachers were most likely to rely on stereotype associations between physical attractiveness and competence at this time.

Consistent with additional findings in Cook and Mobbs (2016) in the context of the CEO selection, the PhD hiring committee will likely unconsciously factor attractiveness into their selection process. This leads to our first hypothesis, in alternative form:

Hypothesis 1: Individuals' facial attractiveness is positively associated with the school quality of the first job placement post-PhD.

Most schools allow assistant professors a period of five to seven years to obtain tenure.[8] Given that publication in a top tier accounting journal can easily take three to four years, from initial draft to final submission and approval, the tenure clock is rather short. Following the argument in the previous section, whether one's "true" research/teaching ability can be revealed within such a short time period remains an empirical question. In addition, most schools do not have a "rigid" written

[8] Considering a large portion of the final year is the formal review process i.e. putting together the tenure promotion package, obtaining reference letters from professors at different schools, and formal meetings by the faculty and tenure promotion committee, the real period of time is approximately four to six years.

rule regarding the number of "A" publications required for tenure. This allows tenure and promotion committees a certain flexibility in their final decision. In light of the logic presented above, other qualitative considerations likely play a role in the tenure promotion decision. In addition, as noted above, there is strong empirical evidence to support the assertion that the benefits of beauty are discriminatory in nature. As such, the benefits of beauty may persist even in the presence of evidence to the contrary.

This leads to our second hypothesis, in alternative form:

Hypothesis 2: Individuals' facial attractiveness is negatively associated with the time to tenure.

We separately assess professors who are tenured at the second or subsequent schools. On the one hand, since these professors have been working for several years, competing schools may exploit the uncertainty of the tenure process and lure them away with promises of a quick tenure decision. For such a voluntary leave, facial attractiveness is expected to be negatively associated with the time to tenure. On the other hand, it is possible that these professors fail to receive tenure at the first schools and are forced to leave. Restarting a tenure clock gives schools more time to evaluate their talent. Under this scenario, facial attractiveness is not necessarily associated with the time to tenure.

It is more difficult to hypothesize the direction of the relationship between facial attractiveness and time to full professorship. On the one hand, findings by Fiske and Taylor (1991) support the notion that the beauty effect is stronger when a direct measure of competence is absent than when it is present. Once a professor has already obtained tenure (i.e. on average, 10 years after first beginning PhD studies), much is known about the individual's past productivity and his/her prospects of future productivity i.e. quality and quantity of working papers. In light of such strong competency indicators, no reliance need be placed on beauty as an imperfect proxy.

In addition, and as argued by Cook and Mobbs (2016) in their paper on executive appearance and CEO selection, facial attractiveness for CEO candidates may only be an important distinguishing characteristic when candidates have similar skills causing firms to seek additional selection criteria. By the time a professor has tenure, the pool of peers is sufficiently diversified in terms of publication history, working papers in the pipeline, and research interests.

On the other hand, the behavioral bias theory asserts that the benefits of attractiveness are discriminatory in nature and as such, benefits may be realized even when a candidate's true skill sets are observable. Specific to the promotion to full professor, promotion may also be driven by performance in administrative or outreach roles where communication is critical. A recent paper by Gheroghiu et al. (2017) supports the assertion that attractive people are better at communicating to the public.

As such, due to conflicting directional hypotheses, we form the following hypothesis:

Hypothesis 3: Individuals' facial attractiveness is not associated with the time to full professorship since obtaining tenure.

III. SAMPLE SELECTION AND VARIABLES

3.1 Sample Selection

We obtain a list of schools featured in the *Businessweek* Top 50 MBA schools in the USA for the year 2015 and a list of those featured in the Top 50 Brigham Young University's (BYU) Research Publication rankings in the USA for the same year. These are provided in Appendix B. Due to data availability issues for a number of schools, our sample is restricted to 48 top rated *Businessweek* schools and 44 top rated BYU schools. We supplement this list with accounting faculty from an additional 31 lower tier US schools, bringing our complete sample to 93 business schools. We download the CVs and photographs of all professors at each of these schools who

obtained a PhD in accounting and who are tenure-track or tenured faculty. We obtain current and historical school information, alma mater, gender, time to tenure, time to full professor, and number of years of non-academic working experience from each professor's CV. The publication history for each professor (as of June 2015) is pulled from three independent sources: (1) the professor's CV; (2) BYU's website: http://www.byuaccounting.net/rankings/univrank/rankings.php**;** and (3) manual collection of publication information for each of the top 6 accounting journals over the past 40 years. Any discrepancies are investigated and resolved. We obtain ethnicity information using a combination of visual photo inspection and/or background search of the surname. Assuming most individuals earn their undergraduate degree at age 22, we estimate professor age using the year the professor graduated from undergraduate studies. Finally, facial attractiveness is assessed using the ratings obtained from both student raters and Amazon Mechanical Turk workers, as detailed below. Our final sample includes 714 professors working at 48 *Businessweek* Top 50 MBA schools, 44 BYU Top 50 schools, and 31 lower tier US business schools. To examine the likelihood of leaving for industry and the attractiveness bias for those placed in non-top 50 schools, we collect information for an additional 1,394 professors from the Hasselback accounting faculty directories. The data is used for tests reported in our additional analysis section.

3.2 Variables

3.2.1 Measures of Facial Attractiveness

Raw attractiveness scores are obtained from Amazon Mechanical Turk (MTurk), a crowdsourcing Internet marketplace that enables individuals and employers (known as Requesters) to coordinate the use of human intelligence to perform tasks. Employers post jobs known as HITs (Human Intelligence Tasks) and workers (called Providers or more colloquially Turkers) can then select jobs and complete tasks for a monetary payment set by the Employer. For each photo, the

MTurk workers rate the attractiveness on two dimensions: (1) quantitative – on a scale of 0 (very unattractive) to 100 (very attractive); and (2) qualitative – as (a) below average; (b) average; (c) attractive; or (d) very attractive. To ensure accuracy, only Turk "masters" are used to rate the photographs. "Masters" are those individuals who have proven themselves in the marketplace as high quality workers.

Each photo is rated, on average, 25 times by MTurk workers. The use of a composite rating is consistent with the work of Hamermesh and Parker (2005) and Sicinski (2009), who noted that the estimated coefficients on *Beauty* are smaller when based on evaluations of a single rater rather than a composite measure. Composite measures are more reliable because they are based on aggregations of correlated responses. The actual number of ratings varies slightly from photo to photo because a random number generator is used to select photos for each rater.

The raw quantitative scores for each professor photo are then converted into a single attractiveness measure. First, the judge's mean rating across all photographs that he or she coded is used to minimize bias from "nice" or "harsh" judges.[9] Specifically, we subtract the mean quantitative score given by a rater from each quantitative score received from the same rater. This adjustment is required in order to account for the fact that each rater may have different benchmarks for beauty, which would add noise to the measure. Next, the average of the mean-adjusted scores is taken. Finally, the variable is normalized (between 0 and 100) to facilitate the interpretation of

[9] To control for rating quality, we only include a rater's scores in our sample if their ratings are of consistent quality. More specifically, we proxy for quality in two ways: (1) the standard deviation of quantitative scores for all photographs coded by an individual is at least 6 (quantitative scores range from 0 to 100); and (2) the correlation between qualitative and quantitative scores for a given rater is at least 0.60. These cutoffs, though somewhat arbitrary, seem reasonable based on our review of the raw data.

regression coefficients.[10] We refer to this variable as the normalized quantitative facial attractiveness score (*Quant Score*). Given that accounting professors attract little if any attention in social media, it is highly unlikely raters would know the identity of individuals they are rating and as such we are unconcerned that familiarity will bias the results.

Since we are only able to collect the most recent professor photos from their institutions' or personal websites, it is likely that the photos may not represent the individual's looks at the time of their first job, tenure and full professorship respectively. Previous research shows there to be minimal cross-cultural variation in people's perceptions of which facial characteristics are considered attractive (e.g. Langlois et al. 2000; Perrett, May, and Yoshikawa 1994). Nonetheless, to adjust for the potential correlation of facial attractiveness with age, gender and ethnicity, we first regress the above-mentioned *Quant Score* on an individual professor's age, gender and ethnicity. The regression model is as follows:

$$Quant\ Score_i = \beta_0 + \beta_1 Gender_i + \beta_2 Ln\_Age_i + \beta_3 Ethnicity_{African_i} + \beta_4 Ethnicity_{Asian_i} + \varepsilon_i \quad (1)$$

Definitions of all control variables are provided in Appendix A. Based on these coefficients we calculate the expected value of *Quant Score* for each individual professor in our sample. Our final measure of the quantitative facial attractiveness score, *Beauty*, is then calculated as the residual value of subtracting the expected *Quant Score* from the actual *Quant Score*.

As noted above, all photographs are obtained from the respective school's website and in all cases, the facial expression is either smiling or neutral (little variation), thus unlikely to affect

[10] Some researchers standardize the individual scores by subtracting the mean and dividing by the coder's standard deviation. We do not adopt this method because it could potentially reward "irresponsible" judges that predominantly assign the average rating and penalize those that followed instructions and used the entire scale.

the empirical findings. A study by Morrison et al. (2013) shows identity to be 2.2 times as important as emotion (anger, disgust, fear, happiness, sadness, surprise) in rating attractiveness for male and female pictures, suggesting that attractiveness is stable. Since the hard tissues of the face are unchangeable, raters are able to make attractiveness judgments based on structural cues[11].

3.2.2. Control Variables

Since our empirical tests are designed to capture the relationship between attractiveness and career success, we control for characteristics likely to be correlated with (a) time to tenure and (b) quality of first school placement, in our multivariate tests. Our control variables include gender, ethnicity, prior non-academic work experience, quality of prior institutions, and number/quality of publications. Definitions of all variables are provided in Appendix A.

To test Hypothesis 1, we estimate the following model using OLS:

$$
\begin{aligned}
1stPlace\_Ranking_i &= \beta_0 + \beta_1 Beauty_i + \beta_2 Gender_i + \beta_3 WorkExpNumYears_i + \beta_4 PhD\_Ranking_i \\
&+ \beta_5 Ethnicity_{African_i} + \beta_6 Ethnicity_{Asian_i} + \beta_7 Top6\_Asst_i \\
&+ \beta_8 NonTop6\_Asst_i + \beta_9 NonAcc\_Asst_i + \beta_{10} ImpactScore\_Asst_i + \varepsilon_i
\end{aligned}
\tag{2}
$$

where the dependent variable is the school ranking measure *1stPlace_Ranking*. *Beauty* is the measure of facial attractiveness of each professor's picture as described in the previous section.

To test Hypothesis 2, we estimate the following model using OLS:

[11] We also calculate the qualitative attractiveness measure as the average qualitative rating received for each professor. More specifically, we code "below average" as 1, "average" as 2, "attractive" as 3, and "very attractive" as 4. This alternative beauty measure deals with the concern that raters may provide different qualitative scores to professors. While we only report results using the residual value of normalized mean-adjusted quantitative scores in our main tests, all results are robust to the use of raw qualitative scores.

$$NumYrsTenure_i = \beta_0 + \beta_1 Beauty_i + \beta_2 Gender_i + \beta_3 Ethnicity_{African_i} + \beta_4 Ethnicity_{Asian_i} + \beta_5 WorkExpNumYears_i + \beta_6 PhD\_Qual\_Top5_i + \beta_7 PhD\_Qual\_Top20_i + \beta_8 Asst\_Qual\_Top5_i + \beta_9 Asst\_Qual\_Top20_i + \beta_{10} Top6\_Assoc_i + \beta_{11} NonTop6\_Assoc_i + \beta_{12} NonAcc\_Assoc_i + \beta_{13} ImpactScore\_Assoc_i + \varepsilon_i \quad (3)$$

where *NumYrsTenure* is the number of years between first placement after graduation and promotion to tenured professor. *Beauty* is the measure of facial attractiveness of each professor's picture as described in the previous section.

To test Hypothesis 3, we estimate the following model using OLS:

$$NumYrsFull_i = \beta_0 + \beta_1 Beauty_i + \beta_2 Gender_i + \beta_3 Ethnicity\_African_i + \beta_4 Ethnicity\_Asian_i + \beta_5 WorkExpNumYears_i + \beta_6 PhD\_Qual\_Top5_i + \beta_7 PhD\_Qual\_Top20_i + \beta_8 Asst\_Qual\_Top5_i + \beta_9 Asst\_Qual\_Top20_i + \beta_{10} Assoc\_Qual\_Top5_i + \beta_{11} Assoc\_Qual\_Top20_i + \beta_{12} Top6\_Full_i + \beta_{13} NonTop6\_Full_i + \beta_{14} NonAcc\_Full_i + \beta_{15} ImpactScore\_Full_i + \varepsilon_i \quad (4)$$

where *NumYrsFull* is the number of years between Number of years between associate to full professor. *Beauty* is the measure of facial attractiveness of each professor's picture as described in the previous section.

IV. RESULTS

4.1. Descriptive Statistics

Table 1 presents the characteristics of the individuals in our sample. The number of observations in each regression varies with the availability of the variables included in the regression model. Our variable of interest, *Beauty*, has a mean value of 0 with a standard deviation of 14.709. It takes, on average, 6.46 years for an assistant professor to receive tenure and 6.35 years

for an associate professor to be promoted to full professor. To mitigate the concern that the number of years to tenure and full professor may be highly skewed and the coefficients estimated using OLS model specification will be biased, we plot the distribution of number of years to tenure and full professor in Figure 1. From this figure, we notice that the distribution of years to tenure and full professor resembles a normal distribution, suggesting that skewness is not a concern. As reported in Table 1, approximately 71.3% of our sample observations are male professors. The average age when data is collected is 48. In terms of ethnicity, 1.7% are African and 25.2% are Asian. The average work experience before they join academia is 2.11 years. In the year in which an assistant professor obtains tenure, the average number of publications in the Top 6 accounting journals is 3.36. This number increases to 5.82 in the year when associate professors are promoted to full professor. Correspondingly, the mean impact score of just tenured professors is 2.88. The same score is 3.02, on average, for professors who just received their full professorship.

Table 2 presents the summary statistics for beauty measures. Panel A reports the summary statistics for the normalized mean-adjusted quantitative scores from MTurk raters. Panel B reports the summary statistics of the mean-adjusted quantitative scores by gender, ethnicity group and age. On average, female professors receive higher scores than male professors. Non-Asian/African professors and younger professors also tend to be rated higher.

4.2. The Effect of Facial Attractiveness on Quality of First School Placement

Appendix C presents the OLS regression results of Equation (1). The results show that the coefficient on *Gender* is significantly negative with a value of -6.215 and a t-stat of -7.78, indicating that, on average, male professors receive lower facial attractiveness score ratings. Similarly, the coefficient on *Ln_Age* is also significantly negative with a value of -22.388, suggesting that raters

assign lower scores to older professors. We also include the ethnicity dummies in estimating Equation (1).

Figure 3 plots the average first placement quality by attractiveness. From this figure, we notice that more attractive PhD candidates are placed at higher quality schools. Table 3 reports the results of the test of H1. Columns (1) and (2) report the OLS regression results. In Column (1), the school rankings are based on the *Businessweek* Top 50 MBA School rankings from 2015. To mitigate the concern that our findings may be endemic to *Businessweek* rankings, we also conduct analysis based on Brigham Young University's (BYU) Research Publication rankings for the same year. These findings are reported in column (2). The results show that the coefficient on *Beauty* is significantly negative in column (1) (with a value of -0.358 and a t-value of -3.03)[12], indicating that more attractive candidates tend to place at better quality universities when they graduate from their PhD program. In terms of economic significance, the interquartile change of *Beauty* of 19.821 [= 9.735- (-10.086)] is translated to a school ranking of 7.10 [= (-0.358) *19.821] places higher. Given the average ranking of the first school placement is 41.218, this is equivalent to an average of 17.22% [=7.10/41.218] higher increase in school ranking placement. This finding supports Hypothesis 1. The results are consistent under the OLS model specification and when BYU rankings are used, as shown in Columns (2). For other control variables, in Column (1), we note that the quality of first placement is influenced by the candidate's work experience, as shown by the negative coefficient on *WorkExpNumYear* (with a value of -0.796 and a t-value of -1.67). On average, candidates with Asian ethnicity tends to be placed lower, evidenced by the positive

[12] All standard errors are clustered at the school level.

coefficient on *Ethnicity_Asian* (with a value of 6.247 and a t-value of 2.24). The ranking of the first placement is also influenced by the quality of the candidate's PhD program, as indicated by the significantly negative coefficient on *PhD_Qual_Top5* (with a value of -30.947 and a t-value of -11.99) and *PhD_Qual_Top20* (with a value of -18.534 and a t-value of -6.44). In addition, the significantly negative coefficient on *Top6_Asst* (with a value of -7.000 and a t-value of -3.90) indicates that candidates who have publications in the top 6 accounting journals tend to have better placement when they graduate. The results for other control variables are similar in Column (2).

4.3. The Effect of Facial Attractiveness on Requisite Time to Attain Tenure

4.3.1 Professors who Attain Tenure at First School Placement

Figure 4 plots the average number of years to obtain tenure by attractiveness, for those individuals who obtain tenure at their first school or at their second school where the move from the first school is voluntary. From this figure we notice that more attractive assistant professors obtain tenure in a shorter period of time. Table 4, Panel A reports the results of the test of H2; specifically, the OLS regression results of the association between facial attractiveness (*Beauty*) and number of years to obtain tenure (*NumYrsTenure*) when tenure is achieved at a professor's first school placement. The results show the coefficient on *Beauty* to be significantly negative (with a value of -0.028 and a t-stat of -2.99) in Column (1), indicating more attractive candidates obtain tenure at their first school placement in a shorter time period. In terms of economic significance, the interquartile change of *Beauty* of 19.821 [= 9.735- (-10.086)] is translated to a -0.55 [= (-0.028) *19.821] decrease in number of years to obtain tenure. Given the average number of years to tenure is 6.456, this is equivalent to an average of 8.5% [=0.55/6.456] shorter time in obtaining tenure. The significant negative coefficient (with a value of -0.628 and a t-stat of -3.80) on *Gender* indicates male professors tend to obtain tenure faster than female professors. In addition, the

significantly positive coefficient (with a value of 1.238 and a t-stat of 3.23) on *Ethnicity_African* indicates that candidates whose ethnicity group is African take longer to attain tenure. Professors from better quality universities tend to receive tenure faster, as indicated by the significantly negative coefficient (-0.909 with a t-stat of -2.61) on *Asst_Qual_Top5*. In addition, publications in both the top 6 accounting journals and non-top 6 accounting journals lengthen the time to tenure at one's first school placement. We find pre-hiring work experience is no longer significant to explain the requisite time to tenure. The results based on BYU publication rankings, as reported in Column (2), are similar to those in Column (1).

Some professors voluntarily leave their first placement universities, perhaps to move to a better academic environment or for personal reasons. Table 4, Panel B reports the results of the test of H2 when tenure is achieved at a professor's first school or at a professor's second school placement when there is an early voluntary departure from the first school. The move is classified as an early voluntary departure if the number of years at the first school is less than or equal to three. Otherwise, it is treated as a forced departure. With the early voluntary departure cases included in the analysis, the sample size increases from 276 to 321. The results in Panel B are similar to that in Panel A. The coefficient on *Beauty* is significantly negative in all four model specifications, indicating a shorter time period for attractive candidates to obtain tenure.

Overall, the results in Table 4 are consistent with our prediction in H2 that time to tenure is negatively associated with a professor's facial attractiveness when tenure is achieved at a professor's first school placement or second school placement in the event of voluntary early departure from the first school.

4.3.2 Professors who Attain Tenure at Second or Subsequent School Placement

Table 5 reports the OLS regression results of H2 when tenure is achieved at a professor's second or subsequent school placement and leaving the first school is a forced decision. Similar to above, we classify the move as a forced departure if the number of years before leaving the first school exceeds three. Consistent with our conjecture, the results show the coefficient on *Beauty* to be insignificant in all model specifications, indicating that time to tenure is not associated with professor's facial attractiveness when tenure is achieved at a professor's second or subsequent school placement.

4.4 The Effect of Facial Attractiveness on Requisite Time to Become Full Professor

Table 6 reports the results of the test of H3; specifically, the OLS regression results of the association between facial attractiveness measure (*Beauty*) and number of years to obtain full professorship from the time one first obtains tenure. Consistent with our prediction, the results show that the coefficient on *Beauty* to be insignificant in all model specifications, indicating time to obtain full professorship is not associated with the professor's facial attractiveness.

In summary, our findings suggest the behavior of hiring committees and tenure and promotion committees changes with the facial attractiveness of the candidate. At the time of graduation from PhD studies, many hiring committees "thin slice" on attractiveness as a proxy for quality, resulting in more attractive candidates being placed at higher quality schools. This relationship continues to be observed in individuals obtaining tenure at their first school placement or their second school placement where the move from their first school is voluntary. For professors obtaining tenure at their second or subsequent school where the move is forced, and for those attaining full professorship, there is no observed impact of attractiveness.

4.5 Additional Analysis

The results in Section 4.3 and 4.4 predominantly support the argument that facial attractiveness matters for the initial hiring and tenure decision when tenure is obtained at one's early career stage. However, the mechanism by which attractive accounting academics gain an advantage remains unanswered. In this section, we conduct a series of additional analyses to further our understanding of the possible channels through which more attractive accounting professors receive favorable treatment on first placement and the tenure process.

4.5.1 The Channels Through Which Facial Attractiveness Takes Effect

Prior literature suggests that the major benefits of attractiveness come from selection. It is likely that the more attractive researchers are more confident and more socially adept. Thus, they are more likely to form important networks and establish coauthor relationships that can help their productivity. In addition, their proactive personality may help them obtain more flyout opportunities when they are on the job market and more workshop invitations after they become assistant professors. With a broader network and more exposure, it is also likely that their papers are cited more than their less attractive researchers. As such, in addition to the direct effect of *Beauty* on professors' career outcomes, *Beauty* may take effect indirectly through other performance metric measures. In particular, we examine (1) whether *Beauty* affects other performance metric measures in academia; and (2) to what extent the relationship between *Beauty* and career outcomes is explained by the effect of *Beauty* on other performance metric measures.

To test our conjectures, we hand collect a number of data points. For PhD candidates, we calculate the number of flyout interviews when on the job market (*Flyout_PhD)*. For individuals who have attained the rank of associate or full professor, we calculate the number of unique coauthors on published papers (*Coauthor_Asst)*, the number of workshop presentations

(*Presentation_Asst)*, and the number of citations (*Citation_Asst)* during one's time as assistant professor. Most of the data is obtained from professors' self-disclosed curriculum vitae (CV). Based on the data collected, we conduct multi-variate analyses on the possible channels through which beauty can affect hiring and tenure outcomes.

Table 7 presents the results. We first estimate the mediation effect of different performance metric measures on the *Beauty*-career outcome relationship, using a path analysis depicted in Figure 2. Path a estimates the direct effect of *Beauty* on career outcomes (*1stPlace_Ranking* or *NumYrsTenure)*. Path b is the direct effect of Beauty on performance metric measures *(Flyout_PhD, Coauthor_Asst, Presentation_Asst,* and *Citation_Asst)*. The indirect effect of *Beauty* on career outcomes (*1stPlace_Ranking* or *NumYrsTenure)* is estimated through Path b × Path c. Table 7, Panel B reports that, on average, 8.50% of the estimated total effect of *Beauty* on *1stPlace_Ranking* is via *Flyout_PhD*. When tenure is achieved at a professor's first school placement, 1.37%, 13.36% and 8.54% of the estimated total effect of *Beauty* on *NumYrsTenure* is via *Coauthor_Asst, Presentation_Asst,* and *Citation_Asst* respectively. The mediation effect is 1.26%, 3.86% and 37.21% for *Coauthor_Asst, Presentation_Asst,* and *Citation_Asst* when tenure is achieved at a professor's first school placement or second school placement when there is a voluntary early departure.

Overall, the results from the mediation analysis facilitate a better understanding of the relationship between facial attractiveness and career outcomes. The findings support our conjecture that other performance metric measures, such as *Flyout_PhD, Coauthor_Asst, Presentation_Asst,* and *Citation_Asst*, mediate the *Beauty*-career outcome relationship. The fact that the direct effect is larger than the indirect effect supports the notion that while there is empirical support for a both

a neoclassical and behavioural perspective of the benefits of beauty, the behavioural perspective dominates the neoclassical one.

4.5.2 The Analysis on Other Facial Feature Measures

In this section, we control for two additional facial feature measures: perceived competency (*Competency)* and perceived trustworthiness (*Trustworthiness*) and examine how they affect the career outcomes. These measures have been popularized by recent papers, such as Dilger et al. (2015), who find that research performance is influenced by perceived trustworthiness, and Graham et al. (2017), who find that competent looks are reflected in CEO compensation. For this test, we ask M-Turk participants re-assess the photos and evaluate them based on perceived competency and trustworthiness. Both perceived competency and perceived trustworthiness are calculated using the same methodology as *Beauty*. The results are reported in Table 8. As shown in Columns (1), (4) and (7), the perceived competency (*Competency)* is negatively associated with the school ranking of the first placement, but not the number of years to obtain tenure. The perceived trustworthiness (*Trustworthiness*) is insignificant in Columns (2), (5) and (8), suggesting that perceived trustworthiness seems not to help in one's academic career. After controlling for both the perceived competency (*Competency)* and the perceived trustworthiness (*Trustworthiness*), the facial attractiveness still matters to one's academic career outcomes as evidenced by the significant coefficient on *Beauty* in Columns (3), (6) and (9).

Overall, the results in Table 8 provides some evidence supporting the argument in the prior literature that facial features such as the perceived competency (*Competency*) impact academic career outcomes. However, it does not subsume the effect of facial attractiveness.

4.5.3 The Impact of Rigorousness of the Tenure and Promotion Process

Because the tenure and promotion process varies across universities, it is likely that the impact of beauty on the ability to obtain tenure is more pronounced in those schools where discretion during the tenure and promotion process is high. We therefore divide our sample into two subsamples based on the rigorousness of the tenure process, and conduct analysis of the beauty effect on the tenure decision in each one.

Specifically, we look at two dimensions of rigorousness: (a) internal review rigorousness and (b) external review rigorousness. For internal review rigorousness, we hand collect information concerning the review process for tenure from each university in our sample. The degree of rigor is rated on a scale from 1 to 5, where 1 is the lowest degree of rigor and 5 is the highest. Low (high) rigor characterizes those schools where the candidate's area department (independent professors and committees) does (do) the majority of the legwork to support promotion. For external review rigorousness, the degree of rigor is also rated on a scale from 1 to 5. Low rigor characterizes those schools that enable the candidate to (i) select a large number of potential references, (ii) permit the candidate veto power or influence regarding references that should not be contacted, and (iii) permit the candidate's chair or department to pick all of the references exclusively. High rigor characterizes those schools where the candidate has little influence on the above-mentioned promotion-related activities. Finally, we develop an aggregate promotion rigorousness score, where 1 is low rigor, 2 is moderate rigor and 3 is high rigor. Schools characterized by both high internal and external rigor are assigned a promotion rigorousness score of 3, while schools characterized by both low internal and external rigor are assigned a promotion rigorousness score of 1. The remainder are assigned a score of 2.

We conduct regression analysis to examine the association between beauty and number of years to tenure for the subsamples. Table 9 reflects the results of the subsample analysis, with Panel A reporting the regression results of the association between beauty and number of years to obtain tenure when tenure is achieved at a professor's first school placement. Panel B reports the regression results of the association between beauty and number of years to obtain tenure when tenure is achieved at a professor's first school placement or second school placement when there is a voluntary early departure from the first school. Consistent with our predictions, the negative association between our beauty measure and number of years to obtain tenure is more pronounced in the less rigorous subsample across all model specifications, suggesting a correlation between greater judgmental discretion in the tenure and promotion process, and a high beauty premium.

4.6 Robustness Checks

4.6.1 Male vs. Female Analysis

To examine whether the facial attractiveness effect on career outcomes differs between male and female professors, we conduct subsample analyses for the male and female subgroups. The results (untabulated) reveal that facial attractiveness matters for both male and female subgroups and the difference between the coefficients on *Beauty* for the two subgroups is not statistically significant. When interacting *Beauty* with *Gender* and including the interaction term in the regression models, the coefficient on the interaction term *Beauty*×*Gender* is insignificant for all our hypotheses. The results suggest that the effect of facial attractiveness on career outcomes does not differ between men and women. Our results are consistent with most studies in the literature, which find either weak or nonexistent gender differences (e.g. Eagly, Ashmore, Makhijani and Longo, 1991; Langlois et al., 2000).

4.6.2 Reclassification of the "Forced" Group

In the main analysis, we treat professors who leave before the midterm review (or before the end of the third year) as "voluntary" leaving and place them into the first school sample, while professors who leave after the midterm review are classified as "forced" leaving. As a robustness check, we reclassify the "forced" group of professors into two sub-groups: (1) "high probability forced" – consisting of those professors who go to lower quality schools; and (2) "low probability forced" – consisting of those professors who go to higher quality schools. Based on the new classification, our new "voluntary leave" group consists of individuals who leave before the midterm review and those who leave after the midterm review but go to higher quality schools. We then re-run our analysis based on the new "voluntary" and "forced" group classification. The "voluntary" group size increases by 77. The untabulated results show that our regression results and inferences remain the same.

4.6.3 PhD Graduates Not in Our Main Sample

As noted in the sample selection, we supplement our sample of top rated *Businessweek* and BYU schools with accounting faculty from an additional 31 lower tier US schools. Nonetheless, this sample may not be representative of the spectrum of high to lower quality schools. In an effort to address this potentially significant selection problem, we track the career trajectory of all PhD graduates from the top 50 US *Businessweek* and BYU ranking schools, for the years 1974 to 2016, who are not already in our main sample. We use the Hasselback Accounting Faculty Directories

to obtain this information.[13] We supplement these faculty directories with information from LinkedIn and Google searches where required.

In total, we obtain information for an additional 2,842 PhD graduates from the top 50 US *Businessweek* and BYU ranking schools. After losing 992 observations because of missing data points and 456 observations due to individuals who have retired, passed away, or are no longer active, we are left with 1,394 observations. Consistent with expectations, the vast majority (95%) of PhD graduates (1323) remain in academia. 18 graduates do not enter tenure-track positions and go straight to industry or to lecturer positions. 53 graduates start in tenure-track positions but subsequently go into industry or into lecturer positions. While those individuals who go straight to lecturer (industry) are statistically more (less) attractive than those who stay in academia, the sample sizes are very small (less than 1%) and as such, the difference should not have any material impact on our findings. For those individuals who start in academia and later decide to go into industry/become a lecturer, there is no significant beauty difference between them and those who stay in academia.

Consistent with results in the main sample, individuals who are more beautiful are placed at a higher quality school.[14] When beauty, competency and trustworthiness are included in the same regression, only beauty is significantly associated with first placement quality. In addition, and again, consistent with results for our main sample, beauty is associated with a shorter time to

[13] For this additional sample, collection of publication and work experience information would be prohibitively time consuming and costly. As such, the conclusions from these additional regression analyses are subject to this data limitation.

[14] To reflect the fact that some individuals in this additional sample go to schools outside of the US, post-PhD, we use the Academic Ranking of World Universities (ARWU) and the Times Higher Education World University Rankings to assist with categorization.

tenure if tenure is achieved at professor's first school placement or at a professor's second school placement when there is a voluntary early departure from the first school. In contrast, beauty is not associated with time to tenure if tenure is achieved at a professor's second or subsequent school placement and leaving the first school is a forced decision. Finally, beauty and gender are not associated with the time to full professorship. These results are also consistent with those from the main sample.

In summary, our additional analyses resolve two main questions. First, since the majority of PhD graduates stay in academia, we are not concerned about the selection concern of career movement out of academia being systematically associated with attractiveness. Second, by tracking the remaining sample of PhD graduates over their career, we confirm all findings from our main sample and show that our results are not sensitive to the selection of those individuals who are currently at higher quality schools.

V. CONCLUSION

Using human rater scores to proxy for the attractiveness of tenure-track accounting professors and controlling for characteristics such as publication history, non-academic work experience, and quality of alma mater, we show that attractiveness has significant impact on a professor's career success. Specifically, attractiveness is associated with better first school placements post-PhD and the attainment of a quicker route to tenure. This observed beauty premium is muted for those schools where the tenure and promotion process is more rigorous. Interestingly, however, there is no association between attractiveness and time to tenure for those

professors who obtain tenure at their second school and for individuals when making the transition from the role of associate professor to that of full professor.

Our findings are broadly consistent with "beauty premium" findings from other studies. Using mediation analyses, we show that in those instances where a beauty premium exists, the majority of the premium is discriminatory in nature. While the extension of prior research findings to a different context may seem at first only an incremental contribution, we believe that we add much to the current literature.

Most importantly, we show that academics are prone to the same bias, the so called beauty premium, as the rest of society. With a simple and clean setting, we demonstrate that such bias is mitigated and eventually disappears over the course of a person's career. Our study is the first to discover that the impact of attractiveness is contingent upon career phase/stage. While we cannot fully rule out other possibilities, such evidence is consistent with the conjecture that beauty is a noisy proxy for good talent and the beauty premium will disappear when information about people's talent becomes fully revealed. These insights contribute to our understanding of beauty and its role in our society.

Future research could examine whether the benefits of attractiveness apply in a similar way to academic success in other countries, where the relationship may be impacted by different cultural and social norms. Another interesting extension would be to focus on teaching schools and teaching-track positions within research-centric institutions to see if the same beneficial impacts of attractiveness are observed in this context. Future research could also investigate whether, and to what extent, we are learning from our known heuristic biases to avoid repeating prior mistakes. Given the plethora of previous research studies on attractiveness and the multitude of theories

developed to explain this phenomenon, it is safe to say there are more interesting research topics yet to be explored.

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Appendix A
Variable Definitions

Variable	Definition
1stPlace_Ranking	School ranking of the first placement as per 2015 Businessweek rating (or BYU all publication ranking) of US schools.
NumYrsTenure	Number of years between first placement after graduation and promotion to tenured professor.
NumYrsFull	Number of years between associate to full professor.
Beauty	The measure of facial attractiveness of each professor's picture. It is calculated as the residual value of subtracting the expected *Quant Score* from the actual *Quant Score*. The expected Quant Score is calculated based on the coefficients obtained from $Quant\ Score_i = \beta_0 + \beta_1 Gender_i + \beta_2 Ln\_Age_i + \beta_3 Ethnicity\_African_i + \beta_4 Ethnicity\_Asian_i + \varepsilon_i$ (1) where actual *Quant Score* is the normalized mean-adjusted quantitative facial attractiveness score of each picture calculated from MTurk workers' ratings. To calculate actual *Quant Score*, we start with the raw quantitative scores and make the following adjustments: 1) subtract the mean quantitative score given by a rater from each quantitative score received from the same rater; 2) calculate the average of the scores for each photo; and 3) normalize the scores between 0 and 100 to facilitate the interpretation of regression coefficients.
Gender	An indicator variable equal to one if the professor is male; zero otherwise.
Ln_Age	Estimated professor age as of 2015 (natural logarithm). It is estimated using the year the professor graduated from undergraduate studies as a proxy for the year he/she turned 22.
Ethnicity_African	An indicator variable equal to one if the professor has African ethnicity; zero otherwise.
Ethnicity_Asian	An indicator variable equal to one if the professor has Asian ethnicity; zero otherwise.
WorkExpNumYear	The number of years of non-academic (industry) working experience.
PhD_Qual_Top5	An indicator variable equal to one if the school where professor obtained his/her PhD degree ranked as top 5, as per 2015 *Businessweek* rating (or BYU all publication ranking) of US schools; zero otherwise.

PhD_Qual_Top20	An indicator variable equal to one if the school where professor obtained his/her PhD degree ranked between 6th to 20th, as per 2015 Businessweek rating (or BYU all publication ranking) of US schools; zero otherwise.
PhD_Qual_Top20	An indicator variable equal to one if the school where professor obtained his/her PhD degree ranked between 6^{th} to 20^{th}, as per 2015 *Businessweek* rating (or BYU all publication ranking) of US schools; zero otherwise.
Asst_Qual_Top5	An indicator variable equal to one if the school where professor is an assistant professor ranked as top 5, as per 2015 *Businessweek* rating (or BYU all publication ranking) of US schools; zero otherwise.
Asst_Qual_Top20	An indicator variable equal to one if the school where professor is an assistant professor ranked between 6^{th} to 20^{th}, as per 2015 *Businessweek* rating (or BYU all publication ranking) of US schools; zero otherwise.
Assoc_Qual_Top5	An indicator variable equal to one if the school where professor is an associate professor ranked as top 5 schools, as per 2015 *Businessweek* rating (or BYU all publication ranking) of US schools; zero otherwise.
Assoc_Qual_Top20	An indicator variable equal to one if the school where professor is an associate professor ranked between 6^{th} to 20^{th}, as per 2015 *Businessweek* rating (or BYU all publication ranking) of US schools; zero otherwise.
Top6_Asst	Number of publications in Top 6 accounting journals, denoted as JAR, JAE, CAR, TAR, AOS, RAST, as of the year when becoming assistant professor.
NonTop6_Asst	Number of publications in non-Top 6 accounting journals, where accounting journals must be on Thomson Reuters Journal Citations Reports database, as of the year when becoming assistant professor.
NonAcc_Asst	Number of publications in non-accounting journals (i.e., economics, finance and management journals), where the journals must be on Thomson Reuters Journal Citations Reports database, as of the year when becoming assistant professor.
Top6_Assoc	Number of publications in Top 6 accounting journals, denoted as JAR, JAE, CAR, TAR, AOS, RAST, as of the year when becoming associate professor.
NonTop6_Assoc	Number of publications in non-Top 6 accounting journals, where accounting journals must be on Thomson Reuters Journal Citations Reports database, as of the year when becoming associate professor.
NonAcc_Assoc	Number of publications in non-accounting journals (i.e., economics, finance and management journals), where the journals must be on Thomson Reuters Journal Citations Reports database, as of the year when becoming associate professor.
Top6_Full	Number of publications in Top 6 accounting journals, denoted as JAR, JAE, CAR, TAR, AOS, RAST, as of the year when becoming full professor.

NonTop6_Full	Number of publications in non-Top 6 accounting journals, where accounting journals must be on Thomson Reuters Journal Citations Reports database, as of the year when becoming full professor.
NonAcc_Full	Number of publications in non-accounting journals (i.e., economics, finance and management journals), where the journals must be on Thomson Reuters Journal Citations Reports database, as of the year when becoming full professor.
ImpactScore_Asst	Mean impact factor of professor's publications as of the year when becoming assistant professor; where publications must be on Thomson Reuters Journal Citations Reports database.
ImpactScore_Assoc	Mean impact factor of professor's publications as of the year when becoming associate professor; where publications must be on Thomson Reuters Journal Citations Reports database.
ImpactScore_Full	Mean impact factor of professor's publications as of the year when becoming full professor; where publications must be on Thomson Reuters Journal Citations Reports database.
Flyout_PhD	Number of flyout presentations, as of the time when finishing PhD.
Coauthor_Asst	Number of unique co-authors on all published papers as of the last year of the assistant professorship.
Presentation_Asst	Number of invited workshop presentations as of the last year of the assistant professorship.
Citation_Asst	Number of citations as of the last year of the assistant professorship.

Appendix B
Top 50 School Rankings

Ranking	School Name		Ranking	School Name	
	Businessweek Rankings	*BYU All Publication Rankings (U.S. Schools in 2015)*		*Businessweek Rankings*	*BYU All Publication Rankings (U.S. Schools in 2015)*
1	Chicago	Stanford	**26**	Texas A&M	Texas at Dallas
2	Harvard	Texas at Austin	**27**	Ohio State	Washington
3	Pennsylvania	Southern California	**28**	South Carolina	UC, Berkeley
4	Stanford	Ohio State	**29**	Southern Methodist	Missouri
5	Northwestern	Pennsylvania	**30**	Georgetown	Notre Dame
6	Duke	Arizona State	**31**	Washington at St. Louis	Baruch College
7	Cornell	Texas A&M	**32**	Brigham Young	Arizona
8	Michigan	UIUC	**33**	Wisconsin	Pittsburgh
9	MIT	Indiana	**34**	Rice	Harvard
10	Virginia	Michigan State	**35**	Minnesota	Iowa
11	Carnegie Mellon	Chicago	**36**	Michigan State	Bentley
12	Dartmouth	UNC-Chapel Hill	**37**	Washington	Florida
13	Columbia	Georgia	**38**	Penn State	Kentucky
14	UC, Berkeley	Duke	**39**	Boston University	Rutgers
15	Indiana	Brigham Young	**40**	Illinois	Emory
16	New York University	Temple	**41**	Purdue	Penn State
17	North Carolina	New York University	**42**	Babson	Michigan
18	UCLA	Cornell	**43**	UC, Irvine	Alabama
19	Texas at Austin	MIT	**44**	Wake Forest	Arkansas
20	Notre Dame	Northeastern	**45**	Thunderbird	UCLA
21	Yale	Northwestern	**46**	Texas Christian	UC, Irvine
22	Emory	Florida International	**47**	Florida	South Carolina
23	Georgia Tech	Boston College	**48**	Boston College	Utah
24	Maryland	Columbia	**49**	Arizona State	Rice
25	Vanderbilt	Wisconsin-Madison	**50**	Rochester	Houston

Appendix C
The Association between Beauty and Individual Characteristics

This table reports the OLS regression results of *Quant Score* on individual characteristics. The full sample includes 714 individuals with available data. Variable definitions are provided in Appendix A. T-values are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively.

	Quant Score
Intercept	139.199***
	(23.59)
Gender	-6.215***
	(-7.78)
Ln_Age	-22.388***
	(-14.59)
Ethnicity_African	1.412
	(0.51)
Ethnicity_Asian	-3.567***
	(-4.31)
No. of Obs	714
Adj R-Sq	0.312

Table 1
Descriptive Statistics

This table presents the descriptive statistics on variables used in the main regression analyses. Variable definitions are provided in Appendix A.

	N	Mean	Std Dev	25th Pctl	Median	75th Pctl
1stPlace_Ranking (Businessweek)	714	41.218	33.769	14.000	32.500	63.000
1stPlace_Ranking (BYU)	714	54.374	67.389	11.000	35.000	77.000
NumYrsTenure	500	6.456	2.253	5.000	6.000	7.000
NumYrsFull	284	6.352	3.254	5.000	6.000	7.000
Beauty	714	0.000	14.709	-10.086	-0.139	9.735
Gender	714	0.713	0.453	0.000	1.000	1.000
Age	714	48.189	11.621	38.000	47.000	58.000
Ethnicity_African	714	0.017	0.129	0.000	0.000	0.000
Ethnicity_Asian	714	0.252	0.435	0.000	0.000	1.000
WorkExpNumYear	714	2.111	2.886	0.000	1.000	3.000
PhD_Qual_Top5(Businessweek)	714	0.162	0.369	0.000	0.000	0.000
PhD_Qual_Top20 (Businessweek)	714	0.272	0.445	0.000	0.000	1.000
PhD_Qual_Top5(BYU)	714	0.154	0.361	0.000	0.000	0.000
PhD_Qual_Top20 (BYU)	714	0.262	0.435	0.000	0.000	1.000
Asst_Qual_Top5 (Businessweek)	500	0.163	0.370	0.000	0.000	0.000
Asst_Qual_Top20 (Businessweek)	500	0.229	0.421	0.000	0.000	0.000
Asst_Qual_Top5 (BYU)	500	0.134	0.341	0.000	0.000	0.000
Asst_Qual_Top20 (BYU)	500	0.220	0.414	0.000	0.000	0.000
Assoc_Qual_Top5 (Businessweek)	284	0.126	0.332	0.000	0.000	0.000
Assoc_Qual_Top20 (Businessweek)	284	0.231	0.422	0.000	0.000	0.000
Assoc_Qual_Top5 (BYU)	284	0.136	0.344	0.000	0.000	0.000
Assoc_Qual_Top20 (BYU)	284	0.276	0.448	0.000	0.000	1.000
Top6_Asst	714	0.434	0.763	0.000	0.000	1.000
NonTop6_Asst	714	0.056	0.242	0.000	0.000	0.000
NonAcc_Asst	714	0.115	0.441	0.000	0.000	0.000
Top6_Assoc	500	3.360	2.618	1.000	3.000	5.000
NonTop6_Assoc	500	0.458	0.987	0.000	0.000	1.000
NonAcc_Assoc	500	1.172	2.116	0.000	0.000	1.000
Top6_Full	284	5.817	3.987	3.000	6.000	9.000
NonTop6_Full	284	1.018	1.792	0.000	0.000	1.000
NonAcc_Full	284	2.606	3.467	0.000	1.000	4.000
ImpactScore_Asst	714	0.977	1.418	0.000	0.000	2.192
ImpactScore_Assoc	500	2.884	1.151	2.487	3.116	3.436
ImpactScore_Full	284	3.018	0.860	2.568	3.083	3.497
Flyout_PhD	419	5.697	4.978	0.000	6.000	9.000
Coauthor_Asst	477	6.704	4.7117	4.000	6.000	9.000
Presentation_Asst	277	14.819	12.496	4.000	12.000	23.000
Citation_Asst	141	38.206	60.490	2.000	19.000	45.000
Competency	714	59.395	14.623	50.557	60.589	69.826
Trustworthiness	714	65.341	14.716	56.373	65.023	75.716

Table 2
Summary Statistics for Beauty measures

This table reports the summary statistics for beauty measures. Panel A reports the summary statistics for normalized mean-adjusted quantitative scores. Panel B reports the summary statistics of the mean-adjusted quantitative scores by gender, ethnicity group and age. ***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively.

Panel A

	N	Mean	Std Dev	25th Pctl	Median	75th Pctl
Quant Score	714	40.398	18.612	25.996	37.620	53.376

Panel B

	Quant Score
By gender:	
Male professors	44.96
Female professors	53.12
Difference: male-female	-8.16***
By ethnicity:	
Asian/African professors	46.59
Non-Asian/African professors	47.56
Difference: A/F-non A/F	-0.97**
By age:	
Below 40	54.17
Above 40	44.24
Difference: Below 40 - Above 40	9.92***

Table 3
The Relation between Beauty and Quality of First Placement as Assistant Professor

This table reports the OLS regression results of *1stPlace_Ranking* on *Beauty*. The full sample includes 714 individuals with available data. Variable definitions are provided in Appendix A. Standard errors are clustered at the school level. T-values are reported in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively.

	(1)	(2)
	1stPlace_Ranking (Businessweek school) OLS	*1stPlace_Ranking (BYU publications)* OLS
Intercept	57.639***	70.940***
	(19.62)	(9.46)
Beauty	-0.358***	-0.496**
	(-3.03)	(-2.55)
Gender	-3.385	-0.531
	(-1.22)	(-0.10)
Ethnicity_African	4.834	-0.649
	(0.73)	(-0.07)
Ethnicity_Asian	6.247**	8.687
	(2.24)	(1.53)
WorkExpNumYear	-0.796*	-1.056
	(-1.67)	(-1.18)
PhD_Qual_Top5	-30.947***	-28.000***
	(-11.99)	(-4.70)
PhD_Qual_Top20	-18.534***	-20.782***
	(-6.44)	(-3.18)
Top6_Asst	-7.000***	-11.363***
	(-3.90)	(-5.12)
NonTop6_Asst	3.523	18.250
	(0.61)	(1.17)
NonAcc_Asst	-1.845	9.492
	(-0.56)	(1.34)
ImpactScore_Asst	-1.033	-3.723**
	(-1.08)	(-1.97)
No. of Obs	714	714
Adj R-Sq	0.1920	0.0632

Table 4
The Relation between Beauty and Number of Years to Obtain Tenure when Tenure is Achieved at a Professor's First School Placement or Second School Placement when there is a Voluntary Early Departure from the First School

This table reports the OLS regression results of *NumYrsTenure* on beauty measures. Variable definitions are provided in Appendix A. Standard errors are clustered at the school level. T-values are reported in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively.

Panel A Tenure is Achieved at a Professor's First School Placement

	(1)	(2)
	NumYrsTenure (Businessweek school) OLS	*NumYrsTenure (BYU publications)* OLS
Intercept	5.532***	5.470***
	(22.61)	(19.93)
Beauty	-0.028***	-0.021***
	(-2.99)	(-2.59)
Gender	-0.628***	-0.612***
	(-3.80)	(-4.09)
Ethnicity_African	1.238***	1.478***
	(3.23)	(4.24)
Ethnicity_Asian	-0.032	0.035
	(-0.18)	(0.20)
WorkExpNumYear	0.003	-0.017
	(0.10)	(-0.46)
PhD_Qual_Top5	-0.687***	-0.194
	(-2.96)	(-0.86)
PhD_Qual_Top20	-0.102	0.113
	(-0.49)	(0.56)
Asst_Qual_Top5	-0.909***	-0.209
	(-2.61)	(-0.82)
Asst_Qual_Top20	-0.300*	-0.186
	(-1.66)	(-0.55)
Top6_Assoc	0.113***	0.086**
	(3.33)	(2.51)
NonTop6_Assoc	0.270***	0.306***
	(3.95)	(4.02)
NonAcc_Assoc	0.118**	0.079*
	(2.52)	(1.91)
ImpactScore_Assoc	0.094	0.068
	(1.21)	(0.89)
No. of Obs	276	276
Adj R-Sq	0.2061	0.1129

Panel B Tenure is Achieved at a Professor's First School Placement or Second School Placement when There is a Voluntary Early Departure From The First School

	(1)	(2)
	NumYrsTenure (Businessweek school) OLS	*NumYrsTenure (BYU publications)* OLS
Intercept	5.555***	5.551***
	(24.52)	(22.04)
Beauty	-0.024**	-0.019**
	(-2.43)	(-2.32)
Gender	-0.733***	-0.697***
	(-4.44)	(-4.43)
Ethnicity_African	1.186***	1.401***
	(3.05)	(3.61)
Ethnicity_Asian	0.026	0.089
	(0.13)	(0.47)
WorkExpNumYear	0.005	-0.017
	(0.15)	(-0.47)
PhD_Qual_Top5	-0.497**	-0.123
	(-2.24)	(-0.57)
PhD_Qual_Top20	0.124	0.032
	(0.67)	(0.17)
Asst_Qual_Top5	-1.094***	-0.194
	(-3.27)	(-0.63)
Asst_Qual_Top20	-0.347	-0.242
	(-1.50)	(-0.76)
Top6_Assoc	0.109***	0.083**
	(3.46)	(2.47)
NonTop6_Assoc	0.288***	0.330***
	(4.40)	(4.58)
NonAcc_Assoc	0.152***	0.110***
	(3.86)	(3.01)
ImpactScore_Assoc	0.105	0.085
	(1.49)	(1.20)
No. of Obs	321	321
Adj R-Sq	0.2008	0.1157

Table 5
The Relation between Beauty and Number of Years to Obtain Tenure when Tenure is Achieved at a Professor's Second or Subsequent School Placement and Leaving the First School is a Forced Decision

This table reports the OLS regression results of *NumYrsTenure* on beauty measures. Variable definitions are provided in Appendix A. Standard errors are clustered at the school level. T-values are reported in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively.

	(1)	(2)
	NumYrsTenure (Businessweek school) OLS	*NumYrsTenure (BYU publications)* OLS
Intercept	7.467***	7.519***
	(10.52)	(10.63)
Beauty	-0.016	-0.010
	(-0.81)	(-0.50)
Gender	-0.216	-0.299
	(-0.57)	(-0.79)
Ethnicity_African	-0.079	-0.238
	(-0.09)	(-0.27)
Ethnicity_Asian	1.149***	1.122**
	(2.62)	(2.46)
WorkExpNumYear	0.108	0.126
	(1.25)	(1.30)
PhD_Qual_Top5	-0.137	0.570
	(-0.22)	(1.04)
PhD_Qual_Top20	0.070	0.592
	(0.16)	(1.28)
Asst_Qual_Top5	-1.390***	-1.158**
	(-2.63)	(-2.36)
Asst_Qual_Top20	0.088	-1.135
	(0.17)	(-1.60)
Top6_Assoc	0.129	0.110
	(1.34)	(1.25)
NonTop6_Assoc	0.237	0.287
	(0.74)	(0.86)
NonAcc_Assoc	0.129	0.134
	(1.24)	(1.31)
ImpactScore_Assoc	-0.134	-0.163
	(-0.71)	(-0.85)
No. of Obs	179	179
Adj R-Sq	0.0363	0.0366

Table 6
The Relation between Beauty and Number of Years to Obtain Full Professorship

This table reports the OLS regression results of *NumYrsFull* on beauty measures. The full sample includes 284 individuals with available data. Variable definitions are provided in Appendix A. Standard errors are clustered at the school level. T-values are reported in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively.

	(1) *NumYrsFull* *(Businessweek school)* OLS	(2) *NumYrsFull* *(BYU publications)* OLS
Intercept	9.186***	9.496***
	(9.97)	(9.03)
Beauty	0.025	0.021
	(1.27)	(1.04)
Gender	-0.565	-0.623
	(-0.98)	(-1.15)
Ethnicity_African	0.390	0.450
	(0.61)	(0.70)
Ethnicity_Asian	0.182	0.198
	(0.44)	(0.42)
WorkExpNumYear	0.036	0.042
	(0.61)	(0.64)
PhD_Qual_Top5	0.114	-0.149
	(0.23)	(-0.33)
PhD_Qual_Top20	-0.190	-0.540
	(-0.45)	(-1.19)
Asst_Qual_Top5	-1.407*	-0.924
	(-1.69)	(-1.40)
Asst_Qual_Top20	-0.430	-0.538
	(-0.83)	(-1.01)
Assoc_Qual_Top5	0.504	0.066
	(0.79)	(0.11)
Assoc_Qual_Top20	0.012	-0.233
	(0.02)	(-0.42)
Top6_Full	-0.022	-0.031
	(-0.42)	(-0.71)
NonTop6_Full	0.140	0.198
	(0.98)	(1.58)
NonAcc_Full	-0.080	-0.090
	(-1.40)	(-1.44)
ImpactScore_Full	-0.658***	-0.688***
	(-2.78)	(-2.92)
No. of Obs	284	284
Adj R-Sq	0.0408	0.0437

Table 7
Beauty Effects through Various Channels

This table reports evidence that *Beauty* affects school quality of first placement (*1stPlace_Ranking)* and time to tenure (*NumYrsTenure)* through various "Channel" variables (*Flyout_PhD, Coauthor_Asst, Presentation_Asst,* and *Citation_Asst)*. Panel A reports the mediation effect of the channel variable *Flyout_PhD* on the relationship between *Beauty* and the school quality of first placement (*1stPlace_Ranking). Flyout_PhD* is the number of flyout presentations as at the time of finishing PhD degree. Panel B reports the mediation effect of the channel variables (*Coauthor_Asst, Presentation_Asst,* and *Citation_Asst)* on the relationship between *Beauty* and time to tenure (*NumYrsTenure). Coauthor_Asst* is the number of unique co-authors on all published papers as of the last year of the assistant professorship. *Presentation_Asst* is the number of invited workshop presentations as of the last year of the assistant professorship. *Citation_Asst* is the number of citations as of the last year of the assistant professorship. Variable definitions are provided in Appendix A. ***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively.

Panel A Mediation effect of fly out (*Flyout_PhD)* on the relationship between *Beauty* and the school quality of first placement (*1stPlace_Ranking).*

Dependent variable	Mediator	Indirect effect of *Beauty* mediated by the mediator	Direct effect of Beauty	Total effect (direct+indirect) of *Beauty*	Proportion of total effect mediated	Ratio of indirect to direct
1stPlace_Ranking	*Flyout_PhD*	-0.0318	-0.3429	-0.3748	0.0850	0.0929

Panel B Mediation effect of coauthorship (*Coauthor_Asst),* invited workshop presentation (*Presentation_Asst),* and citation (*Citation_Asst)* on the relationship between *Beauty* and time to tenure (*NumYrsTenure).*

Dependent variable	Mediator	Indirect effect of *Beauty* mediated by the mediator	Direct effect of Beauty	Total effect (direct+indirect) of *Beauty*	Proportion of total effect mediated	Ratio of indirect to direct
When tenure is achieved at a professor's first school placement						
NumYrsTenure	*Coauthor_Asst*	-0.0005	-0.0344	-0.0349	0.0137	0.0138
NumYrsTenure	*Presentation_Asst*	-0.0066	-0.0427	-0.0493	0.1336	0.1543
NumYrsTenure	*Citation_Asst*	-0.0051	-0.0545	-0.0596	0.0854	0.0934
When tenure is achieved at a professor's first school placement or second school placement when there is a voluntary early departure						
NumYrsTenure	*Coauthor_Asst*	-0.0004	-0.0333	-0.0338	0.0126	0.0127
NumYrsTenure	*Presentation_Asst*	-0.0012	-0.0299	-0.0311	0.0386	0.0402
NumYrsTenure	*Citation_Asst*	-0.0115	-0.0195	-0.0310	0.3721	0.5926

Table 8
Additional Control for Competency and Trustworthiness

This table presents the results of examining the relation between *Beauty* and career outcomes (*1stPlace_Ranking* and *NumYrsTenure*) after controlling for the perceived competency (*Competency*) and perceived trustworthiness (*Trustworthiness)*. Column (1), (2) and (3) report the OLS regression results of *1stPlace_Ranking* on *Beauty*. Column (4), (5) and (6) report the OLS regression results of *NumYrsTenure* on *Beauty* when tenure is achieved at a professor's first school placement. Column (7), (8) and (9) report the OLS regression results of *NumYrsTenure* on *Beauty* when tenure is achieved at a professor's first school placement or second school placement when there is a voluntary early departure from the first school. T-values are reported in parentheses. Variable definitions are provided in Appendix A. ***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively.

	(1) *1stPlace_Ranking* OLS	(2) *1stPlace_Ranking* OLS	(3) *1stPlace_Ranking* OLS	(4) *NumYrs Tenure* OLS	(5) *NumYrs Tenure* OLS	(6) *NumYrs Tenure* OLS	(7) *NumYrs Tenure* OLS	(8) *NumYrs Tenure* OLS	(9) *NumYrs Tenure* OLS
Beauty			-0.316***			0.027**			0.022**
			(-3.38)			(2.98)			(2.25)
Competency	-0.156*		-0.047	0.002		-0.004	0.001		-0.004
	(-1.86)		(-0.48)	(0.40)		(-0.54)	(0.66)		(-0.56)
Trustworthiness		-0.023	0.132		0.002	0.002		0.004	0.003
		(-0.24)	(1.25)		(0.86)	(1.12)		(0.64)	(0.94)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included
No. of Obs	714	714	714	276	276	276	321	321	321
Adj R-Sq	0.1736	0.1695	0.1850	0.2055	0.2054	0.2063	0.1987	0.1955	0.2009

Table 9
Rigorousness of the Tenure and Promotion Process

This table reports the OLS regression results of *NumYrsTenure* on subsamples based on the rigorousness of the tenure and promotion process. For internal review rigorousness, universities are less (more) rigorous when their internal review rigor score is less than (more than or equal to) 3. For external review rigorousness, universities are less (more) rigorous when their external review rigor score is less than (more than or equal to) 3. For promotion rigorousness, universities are less (more) rigorous when their internal review rigor score is equal to (not equal to) 1.Variable definitions are provided in Appendix A. Standard errors are clustered at the school level. T-values are reported in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively.

Panel A The Association between Beauty and Number of Years to Obtain Tenure when Tenure is Achieved at a Professor's First School Placement: Subsample Analysis

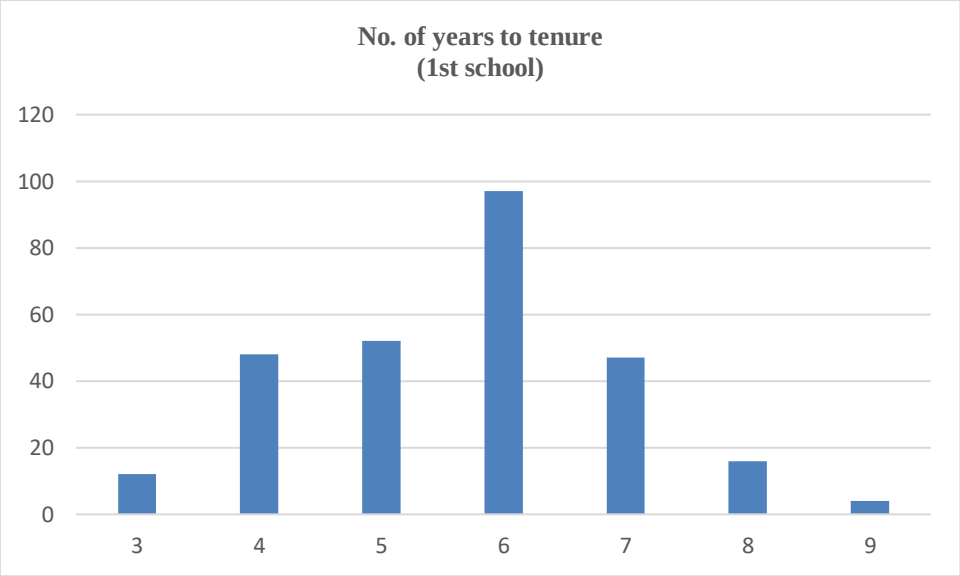
	Internal Review		*External Review*		*Promotion*	
	(1) *More Rigorous*	(2) *Less Rigorous*	(3) *More Rigorous*	(4) *Less Rigorous*	(5) *More Rigorous*	(6) *Less Rigorous*
Beauty	-0.028*	-0.024**	-0.007	-0.033***	-0.019	-0.024**
	(-1.85)	(-2.12)	(-0.38)	(-3.17)	(-1.64)	(-1.84)
No. of Obs	86	190	82	194	126	150
Adj R-Sq	0.2775	0.1504	0.1961	0.2055	0.293	0.1335

Panel B The Association between Beauty and Number of Years to Obtain Tenure when Tenure is Achieved at a Professor's First School Placement or Second School Placement when There is a Voluntary Early Departure From The First School: Subsample Analysis

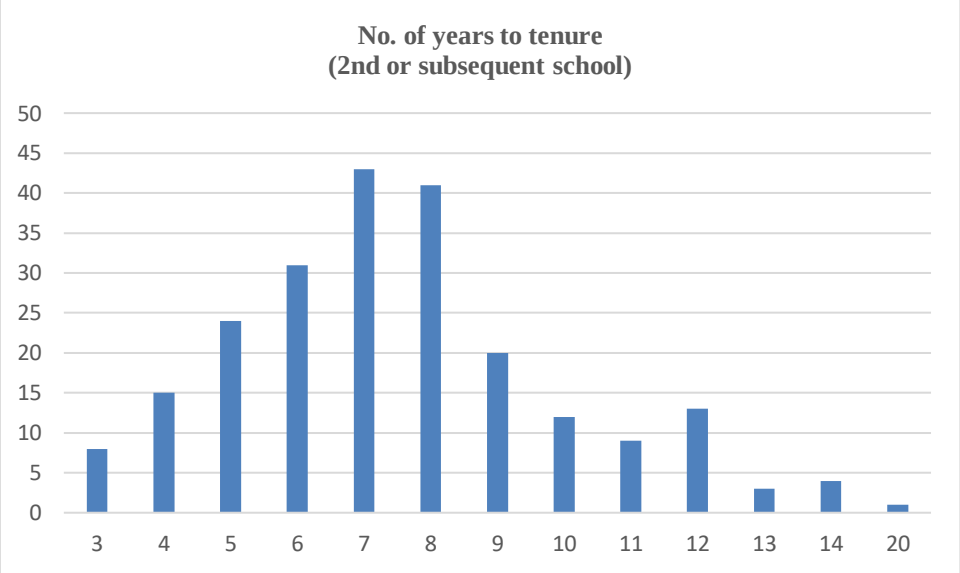
	Internal Review		*External Review*		*Promotion*	
	(1) *More Rigorous*	(2) *Less Rigorous*	(3) *More Rigorous*	(4) *Less Rigorous*	(5) *More Rigorous*	(6) *Less Rigorous*
Beauty	-0.023	-0.021*	-0.003	-0.030***	-0.015	-0.023*
	(-1.61)	(-1.77)	(-0.20)	(-2.85)	(-1.38)	(-1.67)
No. of Obs	105	216	99	222	152	169
Adj R-Sq	0.219	0.1630	0.146	0.210	0.250	0.140

Figure 1

Panel A Number of years to tenure if tenure is achieved at the first school



Panel B Number of years to tenure if tenure is achieved at the second or subsequent school



Panel C Number of years to full professor from time of obtaining tenure

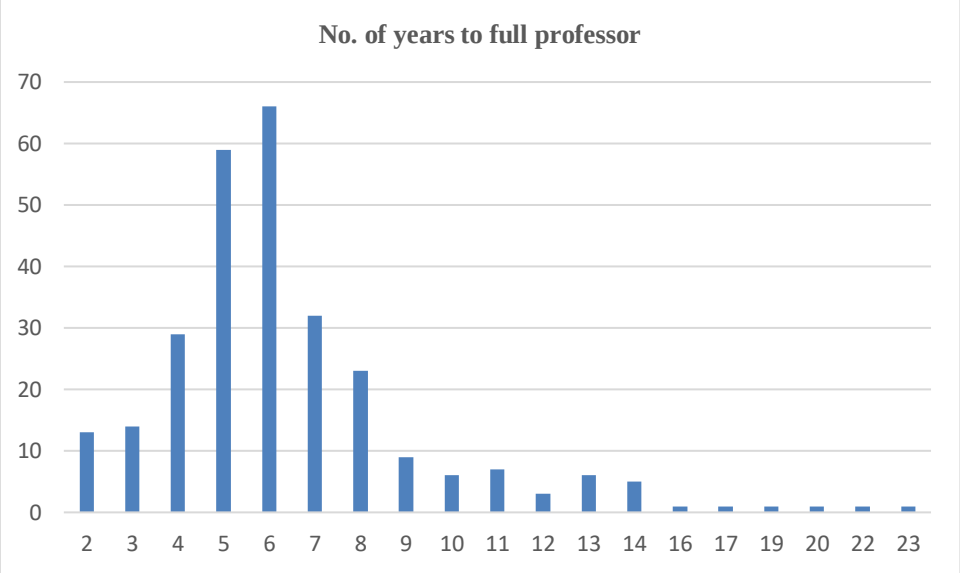
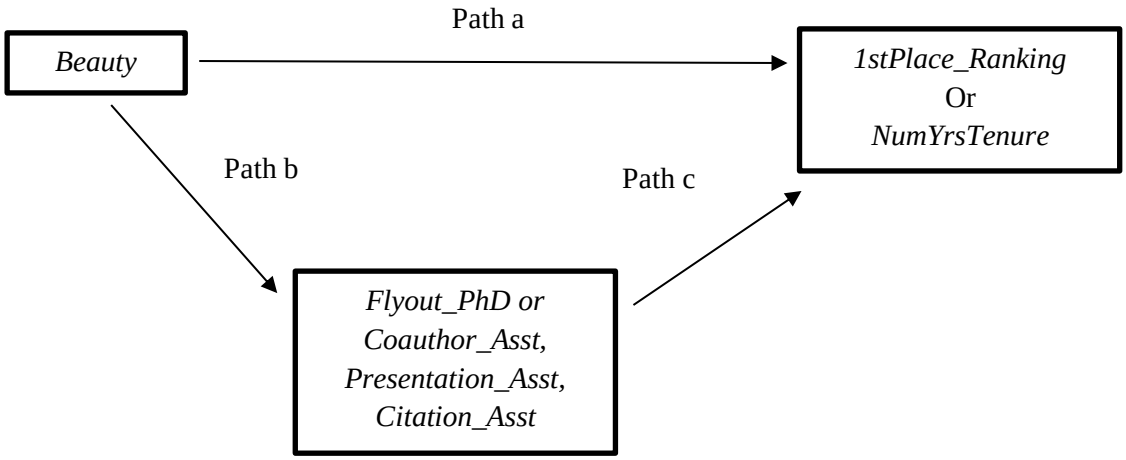


Figure 2

Direct and indirect effects of *Beauty* on career outcomes



Path a is the direct effect of *Beauty* on career outcomes (*1stPlace_Ranking* or *NumYrsTenure).*
Path b is the direct effect of *Beauty* on performance metric measures (*Flyout_PhD, Coauthor_Asst, Presentation_Asst,* and *Citation_Asst).*
Path c is the direct effect of performance metric measures (*Flyout_PhD, Coauthor_Asst, Presentation_Asst,* and *Citation_Asst)* on career outcomes (*1stPlace_Ranking* or *NumYrsTenure).*
Path b × Path c is the indirect effect of *Beauty* on career outcomes (*1stPlace_Ranking* or *NumYrsTenure)* via performance metric measures (*Flyout_PhD, Coauthor_Asst, Presentation_Asst,* and *Citation_Asst).*

Figure 3

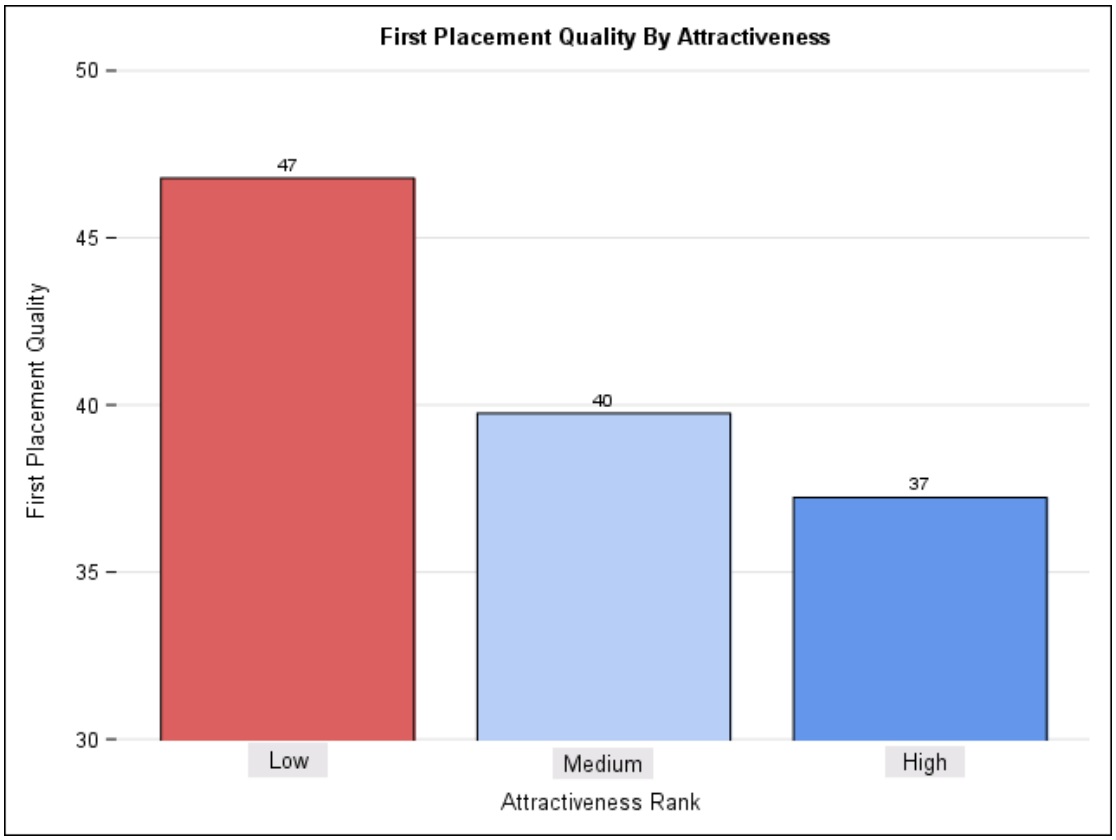


Figure 4