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THE IMPORTANCE OF BEING AN OPTIMIST:
EVIDENCE FROM LABOR MARKETS

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The Importance of Being an Optimist: Evidence from Labor Markets
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ABSTRACT

Dispositional optimism is a personality trait associated with individuals who believe, either rightly or wrongly, that in general good things tend to happen to them more often than bad things. Using a novel longitudinal data set that tracks the job search performance of MBA students, we show that dispositional optimists experience significantly better job search outcomes than pessimists with similar skills. During the job search process, they spend less effort searching and are offered jobs more quickly. They are choosier and are more likely to be promoted than others. Although we find optimists are more charismatic and are perceived by others to be more likely to succeed, these factors alone do not explain away the findings. Most of the effect of optimism on economic outcomes stems from the part that is not readily observed by one's peers.

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There is growing evidence that personality traits shape economic behavior. For example, consider corporate executives. Schoar (2009) finds that CEOs who start their managerial careers during recessions have more conservative management styles than those who do not (see also Bertrand and Schoar (2003)). Malmendier, Tate and Yan (2010) show that CEOs who were ‘depression babies’ take on significantly less debt than CEOs with similar characteristics but from different age cohorts.¹ Going beyond executive labor markets, labor economists have demonstrated that non-cognitive skills, many shaped in early childhood, affect a wide range of adult-life outcomes (Bowles, Gintis, and Osborne, 2001; Heckman, Stixrud, and Urzua, 2006). Each of these distinct strands of research connects relatively time-invariant, person-specific fixed-effects to a range of economic choices that work primarily through labor market participation channels.

In this paper, we focus on optimism as a personality trait, and explore how it affects labor-market outcomes in a panel of daytime MBA students at a major U.S. university. We focus on optimism because it is so central to economic choice under uncertainty. Virtually anyone faced with a choice today that yields uncertain payoffs in the future must make subjective assessments of the likelihood of different future states of nature. An optimist places more weight on favorable states of nature when making these decisions than a pessimist does. This optimism may pertain to a narrowly framed task or event, or it may simply be the broad, general belief that good things tend to happen more often than bad. Indeed, holding distorted beliefs about the likelihood of a *particular* future event is distinct from possessing a personality trait known as optimism.²

¹Kaplan, Klebanov and Sorensen (2010) measure a large number of traits and tendencies among CEO candidates and find that traits linked to execution skills matter more for firm performance than the group of traits that capture interpersonal skills, even though the latter matters more for hiring. Traits appear to affect salaries as well, although the precise nature of the link is unclear. Graham, Li and Qiu (2009) find that about half of the variation in CEO compensation is attributable to CEO fixed effects.

²Weinstein (1980), Weinstein and Klein (1996), and The College Board (1976-1977), Kruger and Dunning (1999), Moore and Small (2007) and Burson, Larrick and Klayman (2006) all explore the tendency to misjudge the probability of specific future events. Peterson (2000), Scheier and Carver (1985), Seligman and Csikzentmihalyi (2000) focus on optimism as a personality trait that may or may not be correlated with positive illusion about a specific future event. Taylor and Brown (1988) point out that positive illusion, optimism, and the illusion of control are all traits possessed by mentally healthy

This latter conception of optimism, *dispositional optimism*, has been studied extensively by personality researchers. They have found that dispositional optimism is a stable personality trait that predicts a wide range of long-horizon health behaviors and outcomes.³ Importantly, because these expectations are measured in absolute terms, rather than relative to outcomes, they may or may not reflect rational beliefs about the likelihood of various states of nature.

Daytime MBA students are an ideal population for studying links between dispositional optimism and labor market choices: MBA students make a large investment in human capital acquisition by exiting the labor market for two years to return to school, and many aspire to and may later exert significant influence over large organizations.⁴ Earning an MBA involves an expensive, time-consuming investment with uncertain payoffs that accrue slowly over time as one's career unfolds. Undertaking the MBA requires a broad set of beliefs about one's vocational future and how it will change as a result of the investment, and in turn, how this will impact overall utility. At the same time, students receive frequent feedback, and have ample opportunities to adjust their time allocation and investment in light of changes in their future expectations.

Thus, it is far from obvious how optimism is likely to affect economic choices and outcomes. Standard arguments predict that optimism leads to bad outcomes, because inappropriate probability weights placed on future states of nature cause individuals to misallocate resources. In contrast, there are a number of reasons why optimists might make better choices and experience better outcomes. They might be optimistic because they are aware of latent skills or talents—their optimism might be rational given their private information. Or it might empower those who possess the trait to persevere in the face of initial adversity. Alternatively, the sense of well-being that stems from a

³See Peterson, Seligman, Vaillant (1998) or Friedman, Weinberg, Webb, Cooper and Bruce (1995) for a particularly stark examples of the long-lasting benefits of dispositional optimism. Rasmussen, Scheier, and Greenhouse (2009) provides an excellent review.

⁴See Kuhnen (2009) for work exploring optimal search behavior that uses similar data.

deeply held conviction that the future will turn out favorably might allow them to adapt more effectively to changes in the environment, or internalize negative feedback more effectively.⁵

To study these questions we measure dispositional optimism when students first arrive in the MBA program and then observe job search behavior during the MBA, including that related to summer internships as well as full-time jobs following graduation. Admissions records, data on classroom performance, and “beauty contest” surveys designed to capture the perceptions of other students allow us to build a robust picture of the investment in human capital that occurs during the MBA experience. In addition, we follow up with alumni two years after they graduate to learn about their post-MBA job-market experience. This survey methodology allows us to explore these competing hypotheses in detail.

We find strong evidence that optimists outperform their peers in the job market. They search less intensively than their peers, and seem to place less importance on the job search process, but nevertheless receive job offers more quickly. Moreover, they are more likely to be promoted in the first two years after graduation, even though they are no more likely than others to still be employed by the same firm.

So why do optimists outperform others? One reason why optimists might outperform others is that unobserved skill, or talent, is driving our results. Although it is impossible to rule this out entirely (indeed, at some level this becomes an issue of semantics), there appears to be little support for the assertion that optimism captures unmeasured skill or luck. Dispositional optimism is unrelated to standardized test scores such as the GMAT (verbal, quantitative, or total) as well as demographic traits that are correlated with past success. Indeed, Satterfield, Monahan and Seligman (1997) shows that dispositional optimism is *negatively* related to performance in law school.

⁵Recent work in psychology points to coping as an important psychological process implicated in optimism. See Rasmussen, Carver and Scheier (2006), Segerstrom, Taylor, Kemeny and Fahey (1998), or Scheier, Weintraub and Carver (1986).

Moreover, there is evidence that, at least in the short run, optimists are prone to hold distorted, inaccurate beliefs. In particular, we find that optimists think that they will get coveted jobs with a higher probability than others. They do not; optimists are no more likely to get a job with a preferred employer than anyone else. They also falsely believe that they will earn more than their peers. These results stack up against stories that hinge on optimism working through private information.

Much more difficult to observe are interpersonal traits that affect how students are treated by other people. Yet these traits are likely to be important, especially in a labor market. Individuals who are, say, good looking, articulate, or more personable may be more optimistic because they have learned to rationally anticipate favorable outcomes when they interact with others. Good things happen to these people, making them optimistic, which in turn perpetuates good things occurring, but the optimism *per se* does not cause the good things in life to occur.

To test this explanation we built a “beauty contest” into our survey. Near the end of the two-year MBA program, students were asked to choose from among their section-mates the five most charismatic people, the five most likely to be CEO, and the five most optimistic.⁶ If dispositional optimism were simply capturing interpersonal charm, we would expect to see the *ex ante* optimism measurements cease to explain job search outcomes when we controlled for charisma. Instead, what we find is that dispositional optimism continues to explain outcomes even when we control for these outward measures. Outward measures explain at most about 1/3 of the overall effect.

The paper proceeds as follows. In Section 1 we describe the student survey and the related archival data that allow us to study optimism and labor-market outcomes. Section 2 explores the demographics of optimism, and considers how optimism might be related to charisma and other measures of socialability. We consider how optimism

⁶In the MBA program we studied, the class is divided into six sections of approximately sixty students. The survey asked students for their rankings of their section-mates, not those outside their section.

relates to job-search behavior in Section 3, while in Section 4, we consider how optimism to job-search outcomes. To see how optimism relates to performance on the job, we report the key findings from a 2009 follow-up survey of 2007 graduates in Section 5. Section 6 explores a range of potential explanations for our findings. Section 7 concludes.

1 Data

The key data source behind our study is an eight-wave online survey of daytime MBA students at a midatlantic university that we conducted between August 2005 and May 2007. Like most daytime MBA programs at US schools, this is a two-year program in which the summer after the first year of classes is typically spent in one or more paid internships with potential future employers. The internship is a valuable opportunity not only for students to learn how well they match to particular employers, industries, and job functions, but also for employers to learn whether the student in question merits a job offer. Some students return from the summer internship with a job offer from their summer employer, and many of these students accept that job. Others continue searching in the second year for a full-time job offer which typically begins in the summer after graduation.

The data collection and survey procedure is detailed in the Appendix, but can be briefly summarized as follows. Students complete four online surveys during each school year. The first is conducted during the orientation period, prior to the beginning of classes, and consists of the Life Orientation Test - Revised (LOT-R), a measure of generalized expectations that is the most common instrument for assessing dispositional optimism (Scheier and Carver., 1985; Scheier et al., 1994). This tool consists of 10 items such as, “In uncertain times, I tend to expect the best”, each of which the participants rate on a scale ranging from “strongly disagree” to “strongly agree.” Setting aside the four filler items, there are 6 items, each with a 5-point scale, so the theoretical range

is 6-30. The full text of the LOT-R, including the filler questions, is contained in the Appendix.

Subsequent surveys consist of 10-15 questions about expectations for future academic performance, as well as their preferences and expectations in their career search. For example, we ask a variety of questions about job-market expectations, as well as about the relative importance of various dimensions of the MBA experience. In particular, students are asked to rank on a scale of 1 to 3 the following three dimensions of the program: the importance of friends made in the program, the importance of getting a good job, and the importance of grades.

The fifth round of the survey is conducted at the beginning of the second year of the program, and included retrospective questions about the quality of their experience with their summer employer(s) (including whether they received a job offer from a summer internship) along with standard job-market expectations. The remaining rounds were conducted in the spring of the final year and included retrospective questions about the overall quality of their experience as well as their recollections of time allocations across job-search tasks and school work.

Students who complete a survey receive a \$5 gift card to a national coffee chain, as well as entry into a drawing for a \$100 gift certificate to a local restaurant. To create incentives for thoughtful predictions, we enter participants into a lottery for a \$1,000 gift certificate based on their predictions, where the likelihood of winning is set proportional to the ex post accuracy of their prediction. Using archival data, we compute actual GPAs and deciles for each student in each term. We then compare these archival data with the survey responses to assess the accuracy of participants expectations.

A total of 232 first-year M.B.A. students (a 53% response rate) participated in the first year of the study. Table 1 illustrates the fact that participant demographics closely match the student population. There were some important differences, however. Survey participants were generally younger, more likely to be US citizens, more likely to be

white and less likely to be Asian. They earned more in their prior jobs and had better grades and GMAT scores.⁷

Table 1 about here

To create incentives for participation, a second \$1,000 gift certificate is raffled to those who completed all eight waves of the survey. Of the 232 respondents who completed all four waves of the first survey, approximately 180 returned to the survey for the second year of the survey. Their demographic characteristics closely match those of the first year survey sample.

A third section of data was created by matching the student's survey responses to archival data from the admissions office and the career management center. Admissions data gives us background demographic characteristics, as well as GMAT scores. The data from the career management center track the receipt and acceptance of job offers. In addition, the career management center maintains a bidding system for interview slots; this allows us to tabulate the number of bids that each student places as a measure of search intensity.

2 Explaining Dispositional Optimism

Before exploring the role that dispositional optimism plays in affecting labor-market outcomes, we first investigate the socio-demographic determinants of optimism. Table 2 reports this analysis.

Column (1) of Table 2 simply regresses the LOT-R score on a vector of demographic and admissions controls. Males are more optimistic than females. Students who come

⁷To verify that underlying demographic differences between the subject pool and the student population are not responsible for our findings, we have repeated our analysis on only the students who participated in the first four rounds of the survey. This has no effect on our findings.

in from more lucrative prior jobs are significantly less optimistic, but this effect may be attributable to their prior industry. There is little variation along other dimensions.

One important possibility is that the LOT-R simply measures likeability or social grace. In other words, respondents who favor questions like “In general, good things tend to happen to me more than bad” could feel that way because they are naturally charming people who are used to good things happening to them. This would yield substantially different interpretations for our findings than those focused on the psychological processes distinguishing optimists from others.

Table 2 about here

To control for this possibility, we conducted a form of a beauty contest near the end of the MBA. In particular, at the end of the second year, students were asked to identify the five people from their first-year section who were the most charismatic, the most likely to one day become CEO, and the most optimistic. By tallying up the votes that each person receives, we constructed measures that are labeled Charisma, Future CEO, and Outward optimism in Table 2. These appear in the remaining columns. A table of raw correlations between the LOT-R and the beauty contest variables is reported in Appendix A.

Column (2) shows that LOT-R loads reliably on charisma, though the effect size is modest. The median survey respondent received 1 vote from their section mates; the mean number of votes was 2.67 and the standard deviation was around 4.5. This means that a two-standard-deviation shift in charisma raises the LOT-R by about one unit (i.e., going from agree to strongly agree on a single question).

The remaining columns illustrate that that outward optimism is positively related to the LOT-R, but that in general, the other measures from the beauty contest are driven out by charisma. In sum, individuals who enter the MBA with high dispositional optimism scores are indeed later perceived to be more charismatic by their peers. Because

of this, we will introduce these variables as controls when we explore outcomes that occur after the MBA (i.e., after the charisma-related variables were obtained), and in robustness checks we include these along with the LOT-R in Table 9.

3 Job-Search Beliefs and Behaviors

Our first link between optimism and labor-market outcomes is in the relation between optimism and the job-search experience of MBA students. We investigate this in two ways. First, we relate optimism to personal beliefs about the job importance. Since the entire MBA experience is, at some level, a complex job-search and matching process, this helps us understand how optimism relates to the perceived expected payoffs of additional job search. Next, we relate optimism to actual search behavior by measuring the number of bids that students place in the on-line bidding system, as well as the number of companies they contacted at various points during the job-search process. These tests all point in the same direction; namely, that optimists engage less intensively (or more efficiently) in search.

3.1 The Importance of a Job

One of the questions we asked students was how they ranked three facets of the MBA experience: the friends they make, the job they get upon completion of the degree, and the grades they receive. Students scored these three options with a 1, 2 or 3 to indicate most important to least important. In Table 3, we use the response to this question as a proxy for search intensity and model its determinants. In particular, we model the probability that a respondent answers that the job they get upon graduation is the foremost consideration in their minds. Approximately 38% of students report that the job they get upon graduation is more important than the friends they make in the

program or the grades they earn in classes.

Table 3 about here

Table 3 illustrates that optimists are significantly less likely to place the greatest importance on getting a job. This holds across a wide range of specifications that control for demographic and admissions characteristics. Males are no different than females in their tendency to report jobs as the item of primary importance. There are no meaningful differences across white, hispanic, or asian ethnicities, and while black respondents are less likely to place importance on jobs, they comprise a very small fraction of the respondent pool.⁸

Thus, Table 3 indicates that optimists place less importance on getting a job relative to the other facets of the MBA experience. In the next subsection, we explore how this translates into job-search behavior.

3.2 Job-Search Activity

Considering students' choices in the job-search process allows us to move from beliefs about job importance to the actions they take pursuing jobs. In Table 4 we measure behaviors associated with job importance by modeling students' search behavior. In particular, we track the number of bids placed by students in the interview bidding system that auctions interview slots to interested students, and the companies that they report interviewing with. These measures are possibly distinct because interview

⁸Approximately ten percent of the student population, and the same fraction of our respondent pool, is made up of students who attend the MBA program under the sponsorship of their prior employer. This sponsorship typically comes with an obligation to return to that employer after the degree is completed (although this is sometimes negotiated away). It is not surprising, then, that they are unlikely to report jobs as the most important factor. Indeed, over two-thirds of sponsored respondents list jobs as the least important factor of the three. Presumably, those who did not had in mind something like a promotion that would be contingent on their performance in the program when they offered that response.

bidding system will not capture the job-search behavior of students who conduct their job searches outside of the purview of the school’s career services center.

Table 4 about here

The table shows a strong negative relationship between the LOT-R and job search. In Panel A, we use Poisson regressions to estimate the count of bids as a function of optimism and a series of controls. More optimistic students place fewer bids. In addition to ethnic and demographic controls (gender, age, and marital status), which have no effect, this effect holds even when we include some important controls for expected job-search behavior.⁹ In particular, controlling for whether the student is sponsored, how much importance they attach to jobs, and how many total job offers they expect to receive, optimists place fewer bids.

Of course, one possible explanation for the results in Panel A is that optimists are more likely to search outside the normal channels, and thus are not captured well by the interview bidding system. To allow for this possibility, we asked the students in round 6 of the survey how many companies they contacted for jobs. This is the dependent variable in Panel B. The interpretation is identical to Panel A; optimists search less intensely.¹⁰

3.3 Search Yields

Next, we explore regressions that model the success rate of the job-search process. This is found in Table 5. This table shows that optimists have higher search yields.

⁹The negative loading on the dummy for US citizen captures the fact that foreign nationals will search on the US job market in addition to their home country job market, whereas fewer US citizens search globally for jobs.

¹⁰Panel B reports OLS regressions. We obtained similar results in Panel B when we ran count regressions instead. In Poisson specifications of Panel B, the point estimate on Optimism is about twice that of Panel A.

Table 5 about here

The dependent variable in Table 5 is the ratio of interviews obtained divided by interview bids submitted. OLS regressions are reported in each column. Since the median student gets about one job offer for every six bids, the loading on optimism indicates that a one standard deviation increase in optimism is associated with about a 10% improvement in search efficiency at the median.¹¹ Or put differently, comparing the coefficients in column (2), the effect of optimism is about 10% that of the effect of either citizenship or gender.¹² Comparing across alternative specifications in Table 5, the effect of optimism is robust to a variety of controls for ethnicity, demographics, MBA performance, and labor-market beliefs.

4 Job-Search Outcomes

Now we shift the focus from beliefs to outcomes. First we explore first-year internship outcomes, as well as how well students assess the probability that they get a highly coveted job. After that, we explore the determinants of receiving the final job offer. As a final step, we investigate how long it takes respondents to accept the job that they ultimately accept.

4.1 Internship Outcomes

Although we are ultimately interested in final labor-market outcomes for MBA students, many students report that they take a job with their first-year summer employer. Also, the summer internship is a key component of the job-search process, even for those who

¹¹The mean is about one interview for every three bids, but this is skewed by the fact that some students are called for interviews without bidding.

¹²Other demographic and ethnicity controls are included in the estimation, but are suppressed for brevity's sake.

take jobs elsewhere. Therefore modeling internship outcomes is an important ingredient to understanding the overall relation between optimism and labor-market outcomes. We provide this analysis in Table 6.

Table 6 about here

The dependent variable in Table 6 is a dummy variable for whether the respondent reported that they had an internship offer as of round 4 of the survey, which coincided with the beginning of the final term of the first year (i.e., the second half of the spring semester). Since most of the interviews for internships occur in the early spring, this is an indication of job-search success, albeit a crude one. Nevertheless, it gives us some preliminary insight into differences in job-market outcomes that optimists experience.

The independent variables include optimism, demographic and admissions controls, as well as controls for a respondent's subjective beliefs about the number of internships they would receive, and a dummy for whether they were sponsored by their prior employer.

Across model specifications, optimists are more likely to have secured a summer internship by the beginning of their fourth term. A one-standard deviation increase in the LOT-R raises the probability of having secured an internship by 1.4 to 2.0%. The demographic controls indicate that younger, white females have the best success at obtaining internships early. Beliefs about the number of internships have no bearing on the outcome here, however being sponsored by one's employer substantially lowers the probability of having secured an internship. This last fact is attributable to the fact that for most sponsored students, their summer return to employment does not count as an internship, since they return to their previous employer.

Note that while we are not measuring the perceived quality of the internship per se, we are in effect measuring whether the respondent has terminated the search for an internship. Therefore, we are observing whether an internship offer has been received

that meets or exceeds their reservation level. Viewed in this light, the findings indicate that optimists face better job-search outcomes in the first phase of the job search, namely securing a summer internship.

4.2 Final Employment Outcomes

Next we turn to models that estimate the hazard of receiving a full-time job offer. Since many students receive multiple offers before making a final decision, and nearly everyone receives an offer by the time they graduate, we model the amount of time to the first job offer.

Table 7 reports estimates from a Cox Proportional Hazard model, in which the baseline hazard rates are stratified by job field. There are thirteen fields broken across finance, management, marketing, and consulting, but the results reported here are robust to coarser fields that only control for broad job category.

Table 7 about here

This table shows that being more optimistic raises the hazard of receiving a job offer. The point estimate is expressed as a proportional shift in the baseline hazard; in particular, point estimates greater than one raise the hazard while point estimates below one lower the hazard. The effect of optimism on the hazard of receiving a job offer is generally significant at the 1% level, but when we include the variable that captures whether the internship resulted in a job offer at the end of the summer, the significance of optimism falls to the 5% level. In part, this is due to the fact that optimists are more likely to receive a job offer from their summer employer. (They are not, however, more likely to go to work for the company that gave them the summer internship, even conditional on having received the offer.)

A number of demographic controls are significant determinants of job-search durations, yet these do not drive out the significance of the LOT-R. U.S. citizens receive jobs much faster; this presumably reflects both the additional difficulty in obtaining jobs for visa applicants as well as the additional waiting times associated with overseas offers. Echoing the results for initial internship placement, female respondents experience the shorter times to first job offer. Older respondents wait longer to receive their first job, but this effect loses significance when we control for whether the internship resulted in an immediate job offer. This is because older respondents are significantly less likely to leave their summer internships with a job offer in hand.

In contrast, the job importance parameter is important for determining durations of unemployment. As one might expect, job importance raises the hazard of obtaining a first job offer, significantly if we include controls for whether the internship resulted in an offer.

Because the hazard functions modeled in Table 7 are stratified by the intended field of entry, the findings presented here cannot be readily explained by the fact that optimists—perhaps because they care less about jobs, as potentially evidenced in Table 3—simply select into occupations where there is a relative surplus of jobs, making satisfactory search outcomes easier to obtain. If this were not the case, one could conclude that the findings were attributable to the fact that optimists were satisfied with lower quality jobs. Indeed, the findings in Table 7 indicate that within occupational categories, optimists have better labor-market outcomes. Nevertheless, we take this issue up in greater detail in the next subsection.

4.3 Do Optimists Accept Lower Quality Jobs?

One interpretation of the preceding results is that in a number of ways optimists do better in the labor market without trying as hard. This can be seen by the fact that

they receive job offers more quickly in spite of placing less importance on job outcomes. Of course, the alternative interpretation is that they simply do not care as much about the quality of the job, and therefore are happy to accept a job that others might prefer to turn down.

In unreported analysis, we explored this option in a number of ways. First, as we have discussed above, we model the probability of receiving a permanent job offer from one's internship, and compare that with the probability of accepting that offer. Optimists are more likely to receive permanent offers from the internships, but no more likely to accept them. These findings speak for optimists being more, not less, choosy.

In addition, we calculated the waiting time between receiving and accepting a job offer. Optimists do not more quickly accept the job offer they receive. Waiting times do not load on the LOT-R in any of the specifications we considered. This speaks against the possibility that our findings are stemming from optimists simply being content with lower quality jobs. We also considered variation in the salary and structure of salary (i.e., the fraction of total salary that was bonus). Again, relative to their peers who entered the same industry, optimists are no different than others in terms of their salary packages. They are paid neither more nor less than their counterparts. Finally, we considered how choosy optimists were by looking among the subset of students who had multiple job offers for which we could compare starting salaries. About 1/3 of students take a job that is not the highest salary offer they receive, but these students are no more or less likely to have high LOT-R scores.

In short, there is no evidence that the smoother job-search experience of optimists is attributable to optimists accepting lower quality jobs. If anything, optimists are choosier.

5 What happens after they graduate?

The final step in the analysis is to consider what happens to students after they graduate. How does their optimism translate into performance on the job?

To study this question, we conducted a follow-up survey in the fall of 2009 for students who graduated in 2007. To keep the response rate as high as possible, we focused on the smallest set of questions that would yield identifiable variation in outcomes. In particular, we asked whether students were still with their current employer, and whether they had been promoted.

The first panel of Table 8 models the probability that the respondent is still at the same job they entered upon graduation. This is not explained by optimism, or by any of the other covariates. Thus, job tenure is orthogonal to the variables of interest. In contrast, Panel B focuses on whether the respondent received a promotion. It shows that regardless of specification, optimism has a strong positive effect on the probability that a respondent receives a promotion. Since about 20% of the respondents report that they have been promoted, the magnitude of the point estimate translates into about a 5-10% increase in the probability of being promoted.

Table 8 about here

In both panels, we include a series of robustness checks. Columns (2) through (4) of each panel include ethnicity dummies as well as demographic controls and admissions controls. These have little effect on the loading on optimism, and indeed are not significant in their own right. Importantly, however, the dummy for whether the student entered a finance job has a strong negative impact on the probability of being promoted.¹³

¹³This industry effect most likely is particular to this time period, in which the financial sector was particularly hard hit by the financial crisis.

In addition to the standard battery of demographic and admissions controls, we also included the beauty contest variables measured at the end of the MBA. Charisma, future CEO and outward optimism have no impact on being promoted. This is noteworthy, at least for charisma and future CEO, because optimism loads heavily on these external measures. Thus, even though optimists do appear to be more charismatic, this greater interpersonal skill does not seem to play a role in job-market outcomes.

6 Exploring Explanations for our Findings

The results up to now suggest that optimists perform better in the job-search process and in the jobs they take after graduation. In this section we explore two explanations for this pattern in which optimism is more of an effect than a cause. Both explanations center around the idea that optimists possess private information about their future success and thus rationally forecast their own outcomes to be better than others.

6.1 Projecting optimism outward to others

A natural question that arises given the correlation between the LOT-R and the beauty contest measures is whether the links between optimism and job-search behavior are driven by outward perceptions of optimists. For example, perhaps the outward disposition of optimists causes others to look favorably upon them, and this results in faster, more efficient and successful job searches. We take up this question in Table 9 by using key regressions from previous tables to set up a horse race between “internal” and “outward” optimism.

Table 9 about here

Column (1) repeats the analysis in Table 4, Panel B, with regressions of the number of companies contacted on demographic controls, LOT-R and measures taken from the beauty contest. Column (2) estimates a Probit of obtaining an internship offer in the beginning of the Spring, which follows Table 6. Column (3) studies search efficiency, following the analysis in Table 5. Column (4) estimates hazards of first job offers, following Table 7. Each column contains three panels of estimates. In Panel A, we conduct a horse race between optimism and charisma. In Panel B, the race is between optimism and the likelihood of becoming a future CEO. In the third panel, we compare optimism as measured by the LOT-R with the optimism that is perceived by others.

We must take caution in interpreting the coefficients, as the beauty contest variables were measured after the dependent variables in each of the four columns were measured. However, if we assume that optimism, as measured by the LOT-R, has had a similar outward effect on the peers of respondents in prior settings (i.e., if optimistic MBA students were also charismatic as high school students, as college students, or in their prior jobs), then we can interpret the beauty contest variables as proxies for the charisma of the respondent when they entered the program. On the other hand, if peer assessments of success and charisma are influenced by the outcomes of the job-search process, then this interpretation is invalid.

Nevertheless, each panel of Table 9 shows that LOT-R impacts key features of the job-search process above and beyond its correlation with the perceptions of others. Of the three beauty contest variables, peer perceptions of the likelihood of being a future CEO mimic the LOT-R most closely (see the middle panel). The loadings are similar in magnitude and both variables are statistically significant in all four specifications. Charisma is important in columns (3) and (4), which capture search efficiency and the hazard of a job offer, but not in the first two columns. Interestingly, peer perceptions of optimism are insignificant. Across all specifications, however, the LOT-R continues to be significant and of approximately the same magnitude as in the baseline specifications.

This, in turn, allows us to offer a nuanced perspective on the issue of causation. The question, ‘Does optimism *cause* X?’ can be interpreted in several ways. Based on work in labor economics suggesting that non-cognitive skills are fixed at a relatively young age in life (see Heckman, Stixrud, and Urzua, 2006, for example), it is probably not fruitful to speculate about how a randomly chosen individual’s behavior would change if they were exogenously made to be more optimistic. The analysis in Tables 5 and 9, however, suggests that an individual would experience more favorable outcomes if she were more able to behave in a way that made other individuals *think* she were optimistic. This follows from the fact that the loadings on the beauty contest variables are similar in sign and magnitude to the LOT-R variable. Thus, if we interpret causation from a purely behavioral or empirical perspective, the results suggest that indeed, optimism does *cause* better job-search outcomes. But Tables 5 and 9 also tell us that ‘faking it’ has its limits: the fact that optimism affects outcomes above and beyond its correlation with beauty contest variables indicates that a truly optimistic person would still experience better outcomes than someone who was not but who instead pretended to be. This in turn, suggests a third interpretation to the question of causation: what if we delegated important tasks or decisions to optimists? Under this interpretation of causation, the results clearly indicate that a less optimistic individual would experience better outcomes by delegating tasks to an optimist.

6.2 Do optimists have private information?

Another way in which optimists may be making rational forecasts of their labor-market outcomes is if they have private information about their job-search outcomes. Presumably a respondent who knew they had a high probability of getting a desirable job would not only face good labor market prospects, but this private information might cause them to appear optimistic more generally.

To explore this possibility, we make use of a series of questions in Round 5 of the survey that ask students about the two companies they would most like to work for. First, they are asked to name the companies they find most desirable. Next, they are asked to provide their estimate of the probability that they will get a job at one of these two companies. Finally, since we know the identity of their ultimate employer, we can determine whether they in fact became employed by one of these firms. Thus, we can ask whether optimistic respondents possess inside information about their job-search outcomes.

We examine this in Table 10. In the first three columns, the dependent variable is the probability of obtaining a match at one of the two companies. Probabilities are reported as numbers between 0-100, so the loading on optimism indicates that a one-standard-deviation shift in optimism is associated with a 1-2% increase in the probability of getting the job they want. This result is highly statistically significant, even if the magnitude of their probability differential is not large. (In unreported regressions, we tested whether this is driven by greater numbers of optimists reporting that they are 100% likely to get the job. We also controlled for job offers. These are not driving this result.)

Table 10 about here

Column (1) includes only optimism, while column (2) introduces gender and age. There is a strong negative loading on gender—males assign about 10% lower probability to receiving the desirable job—but including this variable strengthens the loading on optimism. In column (3) we include citizenship, marital status, ethnicity, and intended job category, and these strengthen the loading on optimism even further. Dispositional optimists clearly assign higher probabilities to receiving the jobs they find desirable.

Next we ask whether these expectations materialize. We do this by running Probit models in which the dependent variable is a dummy for whether the respondents

ultimate employer matches of the companies they indicated as most desirable. There is no effect on optimism. This holds regardless of whether we control for the stated probability. Note also that the stated probabilities are informative; respondents with high subjective probabilities of receiving the job are more likely to receive it. There is simply no additional impact attributable to optimism.

Taken together, these results indicate that optimists falsely believe that they have a good chance of receiving the jobs that they consider to be desirable. In unreported tables, we have also included beliefs about starting salaries. These beliefs were obtained by asking respondents at various survey periods to state their beliefs about their own starting salary, and then to state beliefs about the median MBA graduate in the same program. Optimists think that they will earn more than their peers, even though these expectations turn out to be wrong. This evidence speaks against the idea that the link between optimism and positive job-search outcomes is driven by private information. Indeed, optimists may think they have private information. But this turns out to be incorrect.

6.3 How Does Optimism Affect Long-term Outcomes

The previous sections have presented evidence against a number of potential mechanisms for the link between dispositional optimism and labor-market outcomes, including many offering an alternative to a belief-based explanation. Optimists are not simply more skilled, at least not as measured on a wide range of observable characteristics. They do not choose different industries to work in. They do not appear to be less selective about their employers. They do not have specific inside information that provides a basis for their positive generalized expectations. And, importantly, the behaviors driving these results matter above and beyond the qualities observed by their peers.

What then does relate dispositional optimism to labor-market outcomes? A number of candidate mechanisms have a mixed impact, theoretically. For example, optimists may be more motivated to work hard to achieve goals since they believe their additional effort will be rewarded. But they may also be less motivated to work hard to achieve goals if they believe the goal is likely to be achieved anyway, or that all will be okay regardless of whether it is achieved. Similarly, optimism might help overcome excessive risk aversion (Kahneman and Lovallo, 1993), but also can lead to excessive risk taking via economic- (Puri and Robinson, 2007) or health-related (Weinstein, 1982) choices.

But there are other consequences of optimism that are unequivocally positive. One of the strongest correlates of dispositional optimism is positive coping (Scheier et al., 1994). Optimists are more likely to actively engage problems, positively reframe situations, plan a course of action, and rely on social support (Scheier et al., 1986). The evidence we find that is consistent with this is the high priority optimists place on developing relationships while in school. Indeed, the likelihood of listing relationships as the top priority (vs. grades and job) has one of the strongest relations to the LOT-R of anything we observe.

Related work in psychology provides evidence that optimists are more willing to disengage from unrealistic courses of action (Aspinwall and Richter, 1999) and re-engage in new ones (Rasmussen et al., 2006). This line of inquiry is particularly important considering that the self-regulation model underlying dispositional optimism (Scheier and Carver, 1985) would otherwise suggest optimists will over-persist on unrealistic goals. We find evidence consistent with optimal persistence by optimists, as they are as likely as pessimists to switch fields of interest during their first year of school but actually less likely in their second. Given our broader results, this particular balance between flexibility and persistence seems to be rewarded in the labor market.

A final set of mechanisms that are unequivocally positive for optimism are self-fulfilling prophecies (cf. Murray et al., 1996). While it has long been established that peoples expectations for others influence their behavior (cf., Snyder et al., 2003), there

is growing evidence that peoples expectations for themselves influence behavior (Shih et al., 1999). To the extent that this occurs, we would expect those with optimistic beliefs to perform better even after controlling for all objective circumstances, observed and unobserved. This is a potentially very important process that deserves greater attention, but requires an experimental setting.

Each of these channels provides a psychological mechanism for the observed connection between dispositional optimism and the economic outcomes we observe. Our data do not allow us to test these mechanisms directly. Of course, because we cannot manipulate the trait of interest directly we cannot conclude that there is no omitted factor associated with optimism that is truly driving the behavior we observe. This problem is endemic to research on traits. Our survey design has allowed us to narrow the range of possible mechanisms by which optimism relates to important outcomes such as job searches. Further narrowing is an important task for future research.

7 Conclusion

Psychologists distinguish between two types of optimism: dispositional and situational optimism—or, paraphrasing from Peterson (2000), big optimism and little optimism. The distinction is between personality and perception. Big optimism is a broad, pervasive view of the future in which favorable outcomes are perceived to be more likely than is perhaps warranted. Do good things tend to happen to me more than bad? Answers to questions like this reflect dispositional optimism. Little optimism, on the other hand, is a belief that an outcome in a particular domain is more likely than it perhaps actually is. Will my division outperform the other divisions in my firm? How likely is it that I will sink this putt? Answers to these questions reflect a more narrow, situational optimism.

The vast majority of empirical work in behavioral finance and economics has focused on the latter conception of optimism, and pointed out the bad outcomes associated with

overconfidence in one's own ability or over-optimism about future outcomes. In short, for most economists, the optimism glass is half empty, not half full.

This paper is different. We focus on dispositional optimism, a personality trait, and show how it is related to a range of positive outcomes in the labor market. At some level, our aim is to provide a psychological microfoundation for a growing body of empirical work in economics that illustrates the importance of traits for economic outcomes. Indeed, we find that optimists search more efficiently for jobs, get jobs faster and more easily than others, and are more likely to be promoted after two years' time. In many respects, this supports the view of optimism espoused in Taylor and Brown (1988, 1994), who argue that optimism has salutary consequences.

Perhaps the key advantage of our research strategy over past studies linking optimism to economic outcomes is the timing of our measurement. By creating our own panel, we can measure optimism when MBA students first arrive, before they experience success or hardship in the MBA program, thus avoiding the look-back bias that complicates most cross-sectional work. Indeed, by explicitly linking ex ante optimism measurements to ex post measures of how respondents are viewed by others, we can also control for explanations that center around the likeability of optimists driving their success. To be sure, optimists are certainly more charismatic, but this charisma is not responsible for their labor market success.

The effect sizes we measure are small. Indeed, this is common in other studies linking optimism to economic choices. For example, Landier and Thesmar (2009) report modest, but highly statistically significant, effects of optimism on lending choice among French entrepreneurs. In a recent review of 84 studies relating dispositional optimism to health outcomes, researchers found systematic but relatively small effects, averaging 0.17 standard deviations (Rasmussen et al 2009).

Nevertheless, optimism may have a large effect on cumulative circumstances (such as longevity) through the accretion of small choices over time. Because dispositional

optimism is ubiquitous to a wide range of decision settings, it affects multiple interactions and decision throughout the day, every day. Thus, dispositional optimism has a unique potential to shape lives, even if only one thin layer at a time. The accretion, or accumulation, of small choices into larger outcomes may be the most parsimonious way to understand how personality traits fixed early in life manifest in large, long-lasting effects later in life.

By what means does this accretion occur? While there is considerable evidence that dispositional optimism is positively related to many favorable outcomes, especially regarding health, there is relatively little on the mechanisms underlying that relation. Recent work in psychology points to the possibility that dispositional optimists are better able to internalize negative feedback than others, and that they have better coping skills. Life is filled with innumerable occasions in which people must carefully balance competing forces: the desire to abandon a goal when it proves unattainable or undesirable, and the need to stay the course when temporary setbacks occur. Coping and resilience are surely a part of the complex balance, and indeed may be a central component of the non-cognitive skills that labor economists have identified as important for work-life success. Given the concurrent efforts taking place in psychology, as well as in numerous areas of economics, a full account of the link between dispositional optimism and economic outcomes is a rich area for future research.

References

- Armor, D.A., and S.E. Taylor, 1998, Situated Optimism: Specific outcome expectancies and self-regulation, in *Advances in Experimental Social Psychology* (Princeton University Press, Princeton, NJ).
- Aspinwall, L.G., and L. Richter, 1999, Optimism and self-mastery predict more rapid disengagement from unsolvable tasks in the presence of alternatives, *Motivation and Emotion* 23, 221–245.
- Aspinwall, L.G., and S.E. Taylor, 1992, Modeling Cognitive Adaptation - a Longitudinal Investigation of the Impact of Individual-Differences and Coping on College Adjustment and Performance, *Journal of Personality and Social Psychology* 63, 989–1003.
- Aspinwall, L. G., and S.M. Brunhart, 1996, Distinguishing optimism from denial: Optimistic beliefs predict attention to health threats, *Personality and Social Psychology Bulletin* 22, 993–1003.
- Bertrand, Marianne, and Antoinette Schoar, 2003, Managing with Style: The Effect of Managers on Firm Policies, *Quarterly Journal of Economics* 118, 1169–1208.
- Bowles, S., H. Gintis, and M. Osborne, 2001, The Determinants of Earnings: Skills, Preferences, and Schooling, *Journal of Economic Literature* 39, 1137–1176.
- Burson, K. A., R.P. Larrick, and J. Klayman, 2006, Skilled or unskilled, but still unaware of it: How perceptions of difficulty drive miscalibration in relative comparisons, *Journal of Personality and Social Psychology* 90, 60–77.
- Danner, Deborah, David Snowdon, and Wallace Friesen, 2001, Positive Emotions in Early Life and Longevity: Findings from the Nun Study, *Journal of Personality and Social Psychology* 80, 804–813.
- Friedman, L.C., A.D. Weinberg, J.A. Webb, H.P. Cooper, and S. Bruce, 1995, Skin cancer prevention and early detection intentions and behavior, *American Journal of Preventive Medicine* 11, 59–65.
- Graham, John, Campbell Harvey, and Manju Puri, 2008, Managerial Attitudes and Corporate Decisions, Working paper series Duke University.
- Graham, John, Xi Li, and Jiaping Qiu, 2010, Managerial Characteristics and Executive Compensation, Working Paper, Duke University.
- Heckman, James J., Jora Stixrud, and Sergio Urzua, 2006, The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior, *Journal of Labor Economics* 24, 411–482.
- Kahneman, Daniel, and Dan Lovallo, 1993, Timid Choices and Bold Forecasts - a Cognitive Perspective on Risk-Taking, *Management Science* 39, 17–31.
- Kaniel, Ron, Cade Massey, and David T. Robinson, 2010a, Optimism and Economic Crisis, Working Paper, Duke University and Yale University.
- Kaniel, Ron, Cade Massey, and David T. Robinson, 2010b, Optimism without Illusion: The Impact of Experience on Expectations, Working Paper, Duke University and Yale University.

- Kaplan, Steven, Mark Klebanov, and Morten Sorenson, 2010, Which CEO Characteristics and Abilities Matter?, *Journal of Finance* forthcoming.
- Kruger, J., and D. Dunning, 1999, Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments, *Journal of Personality and Social Psychology* 77, 1121–1134.
- Kuhnen, Camelia, 2009, Searching for jobs: Evidence from the labor market for MBA graduates, Working Paper.
- Landier, Augustin, and David Thesmar, 2009, Financial Contracting with Optimistic Entrepreneurs, *Review of Financial Studies* 22, 117–150.
- Malmendier, Ulrike, Geoff Tate, and Jonathan Yan, 2010, Managerial Beliefs and Corporate Financial Policies, NBER Working Paper 15659.
- Maruta, T., RC Colligan, M Malinchoc, and KP Offord, 2000, Optimism-Pessimism Assessed in the 1960s and Self-Reported Health Status 30 Years Later, *Mayo Clinic Proceedings* 75, 140–143.
- McNulty, J.K., and B.R. Karney, 2004, Positive expectations in the early years of marriage: Should couples expect the best or brace for the worst?, *Journal of Personality and Social Psychology* 86, 729–743.
- Moore, D.A., and D.A. Small, 2007, Error and bias in comparative judgment: On being both better and worse than we think we are, *Journal of Personality and Social Psychology* 92, 972–989.
- Murray, SL, JG Holmes, and DW Griffin, 1996, The Self-fulfilling Nature of Positive Illusions in Romantic Relationships: Love Is Not Blind, but Prescient, *Journal of Personality and Social Psychology* 71, 1155–1180.
- Nes, L.S., and S.C. Segerstrom, 2006, Dispositional Optimism and Coping: A Meta-Analytic Review, *Personality and Social Psychology Review* 10, 235.
- Peterson, C., 2000, The Future of Optimism, *American Psychologist* 55, 44–55.
- Puri, Manju, and David T. Robinson, 2007, Optimism and Economic Choice, *Journal of Financial Economics* 86, 71–99.
- Rasmussen, M. Scheier, and J.B. Greenhouse, 2009, Optimism and Physical Health: A meta-analytic review, *Annals of Behavioral Medicine* 37, 239–256.
- Rasmussen, H.N., C. Wrosch, M.F. Scheier, and C.S. Carver, 2006, Self-regulation processes and health: The importance of optimism and goal adjustment, *Journal of Personality* 74, 1721–1747.
- Satterfield, J.M., J. Monahan, and M.E.P. Seligman, 1997, Law School Performance Predicted by Attributional Style, *Behavioral Sciences and the Law* 15, 1–11.
- Scheier, M.F., and C.S. Carver, 1985, Optimism, coping, and health: Assessment and implications of generalized outcome expectancies, *Health Psychology* 4, 219–247.
- Scheier, M.F., C.S. Carver, and M.W. Bridges, 1994, Distinguishing Optimism from Neuroticism (and Trait Anxiety, Self-Mastery, and Self-Esteem) - a Reevaluation of the Life Orientation Test, *Journal of Personality and Social Psychology* 67, 1063–1078.
- Scheier, M.F., J.K. Weintraub, and C.S. Carver, 1986, Coping with Stress - Divergent Strategies of Optimists and Pessimists, *Journal of Personality and Social Psychology* 51,

1257–1264.

- Schoar, Antoinette, 2009, CEO Careers and Style, Working paper, MIT.
- Schulz, R., J. Bookwala, J.E. Knapp, M. Scheier, and G.M. Williamson, 1996, Pessimism, age and cancer mortality, *Psychology and Ageing* 11, 304–309.
- Segerstrom, S.C., 2001, Optimism and attentional bias for negative and positive stimuli, *Personality and Social Psychology Bulletin* 27, 1334–1343.
- Segerstrom, S.C., S.E. Taylor, M.E. Kemeny, and J.L. Fahey, 1998, Optimism is associated with mood, coping, and immune change in response to stress, *Journal of Personality and Social Psychology* 74, 1646–1655.
- Seligman, M.E.P., and M. Csikzentmihalyi, 2000, Positive Psychology: an introduction, *American Psychologist* 35, 5–14.
- Shih, M, TL Pittinsky, and N Ambady, 1999, Stereotype Susceptibility: Identity Salience and Shifts in Quantitative Performance, *Psychological Science* 10, 80.
- Snyder, Mark, Elizabeth D. Tanke, and Ellen Berscheid, 2003, *Social Perception and Interpersonal Behavior: On the Self-Fulfilling Nature of Social Stereotypes*. Worth Publishers New York 10th edn.
- Taylor, S.E., and J.D. Brown, 1988, Illusion of well-being: a social psychological perspective on mental health, *Psychological Bulletin* 103, 193–210.
- Taylor, S.E., and J.D. Brown, 1994, Positive Illusions and Well-Being Revisited: Separating Fact from Fiction, *Psychological Bulletin* 116, 21–27.
- The College Board, 1976-1977, *Student descriptive questionnaire*. (Educational Testing Service Princeton, NJ).
- Weinstein, Neil, and William M. Klein, 1996, Unrealistic Optimism: Present and Future, *Journal of Social and Clinical Psychology* 15, 1–8.
- Weinstein, Neil D., 1980, Unrealistic optimism about future life events, *Journal of Personality and Social Psychology* 39, 806–820.

Table 1: Participation Characteristics

This table presents demographic characteristics for the proportion of the student population that participated in our survey, as well as for the student population as a whole. Prior Salary is the highest reported salary that an incoming student reported earning in a job prior to attending the MBA. GMAT total, verbal and quantitative are scores on standardized entrance exams for the MBA degree. Business, engineering, arts denotes the fraction of each sample that earned an undergraduate degree in business administration, engineering, or arts and sciences. Grade point average is on a 4.0 scale. 232 students participated in the first four waves of the study.

Variable:	Overall	Declined	Participated	t-test
Male	0.78	0.77	0.78	-0.26
Age	29.13	29.53	28.88	1.93
Married	0.34	0.32	0.36	-0.97
US Citizen	0.53	0.41	0.61	-3.94
Prior Salary	59,053	51,862	63,547	-2.48
<u>Ethnicity</u>				
White	0.45	0.38	0.49	-2.04
Asian	0.37	0.43	0.33	1.97
Black	0.03	0.03	0.02	0.70
Hispanic	0.05	0.03	0.06	-1.39
Other	0.11	0.12	0.10	0.70
<u>GMAT Scores</u>				
Total	701.00	694.56	705.09	-2.49
Verbal	38.98	37.64	39.83	-4.55
Quantitative	46.58	46.90	46.38	1.38
<u>Grade Point Average, by term</u>				
Term 1	3.57	3.52	3.60	-3.03
Term 2	3.46	3.39	3.50	-3.69
Term 3	3.49	3.44	3.52	-2.32
Term 4	3.52	3.46	3.56	-3.12
<u>Undergraduate degree</u>				
Arts	0.33	0.33	0.33	0.03
Business	0.18	0.22	0.16	1.50
Engineering	0.21	0.18	0.24	-1.43

Table 2: The Demographics of Optimism

This table models optimism as a function of demographic characteristics, talent measures, and measures of how subjects are perceived by others. Prior Salary is the maximum reported salary prior to attending the MBA program, and is expressed in 10K units. Charisma, Future CEO, Optimist and Best friend are scores that each respondent received from a school-wide survey asking, for instance, “Who is the most charismatic? Name the top 5.” One, two and three asterisks denote significance at the 10%, 5% and 1% level, respectively. Robust standard errors are reported in parentheses below point estimates.

	(1)	(2)	(3)	(4)	(5)	(6)
Charisma		0.127*** (0.04)				0.101* (0.06)
Future CEO			0.079 (0.06)			0.034 (0.07)
Optimist				0.115** (0.05)		0.058 (0.06)
Best friend					-0.008 (0.11)	-0.091 (0.11)
White	1.228 (0.80)	0.813 (0.82)	1.001 (0.82)	0.900 (0.82)	1.041 (0.84)	0.866 (0.82)
Black	1.346 (1.99)	1.404 (1.99)	1.274 (2.02)	1.233 (2.01)	1.183 (2.02)	1.283 (2.02)
Hispanic	-0.279 (1.40)	-0.454 (1.41)	-0.401 (1.43)	-0.529 (1.43)	-0.539 (1.43)	-0.393 (1.43)
Asian	0.171 (0.81)	-0.007 (0.83)	0.089 (0.84)	-0.084 (0.84)	-0.070 (0.85)	0.048 (0.84)
Male	1.070* (0.60)	1.055* (0.60)	1.082* (0.62)	1.289** (0.61)	1.222** (0.61)	1.098* (0.61)
Married	0.215 (0.50)	0.410 (0.50)	0.278 (0.50)	0.379 (0.50)	0.375 (0.51)	0.310 (0.51)
Age	-0.066 (0.08)	-0.072 (0.09)	-0.076 (0.09)	-0.077 (0.09)	-0.090 (0.09)	-0.077 (0.09)
Prior salary	-0.013*** (0.00)	-0.014*** (0.00)	-0.014*** (0.00)	-0.013*** (0.00)	-0.013*** (0.00)	-0.014*** (0.00)
GMAT	-0.001 (0.01)	0.000 (0.01)	-0.003 (0.01)	0.000 (0.01)	-0.002 (0.01)	-0.000 (0.01)
Bus. degree	0.834 (0.67)	0.963 (0.68)	0.883 (0.68)	0.904 (0.68)	0.924 (0.68)	0.933 (0.68)
Arts/Sci. degree	0.910* (0.50)	0.861* (0.50)	1.009** (0.50)	0.937* (0.50)	1.060** (0.50)	0.825* (0.50)
Constant	23.643*** (4.87)	22.663*** (4.78)	25.013*** (4.82)	22.822*** (4.93)	25.256*** (5.02)	23.172*** (5.05)
Observations	321	310	310	310	310	310
R-squared	0.07	0.10	0.09	0.09	0.08	0.11

Table 3: The Importance of Job over Friends and Grades

The dependent variable is a dummy for whether the respondent attaches primary importance to the job they receive upon graduation, as opposed to the friends they make or the grades they earn. Right-hand side variables include optimism, gender, ethnicity controls, age, and a dummy for whether the student's enrollment was sponsored by an employer. Point estimates are reported as the changes in the probability associated with a one-standard deviation change in a continuous variable, or else a shift from 0 to 1 in a binary variable. Robust standard errors are reported in parentheses below marginal probabilities.

	(1)	(2)	(3)	(4)
Optimism	-0.024*** (0.01)	-0.023*** (0.01)	-0.023*** (0.01)	-0.025*** (0.01)
Male		0.028 (0.07)	0.019 (0.07)	0.012 (0.07)
White		-0.117 (0.09)	-0.116 (0.10)	-0.106 (0.10)
Black		-0.307** (0.14)	-0.289* (0.15)	-0.296** (0.14)
Hispanic		-0.193 (0.13)	-0.203 (0.13)	-0.184 (0.13)
Asian		-0.090 (0.10)	-0.100 (0.10)	-0.047 (0.11)
Age		0.006 (0.01)	0.002 (0.01)	0.005 (0.01)
US Citizen			-0.006 (0.08)	-0.062 (0.08)
Married			0.097 (0.06)	0.095 (0.07)
Sponsored				-0.447*** (0.05)
Observations	323	323	322	321

Table 4: Job Search Intensity

Panel A reports poisson regressions in which the dependent variable is the number of bids that a respondent placed in the auction system for interview slots in the career management center. Panel B reports OLS regressions in which the dependent variable is the number of companies contacted for interviews (this includes on- and off-campus efforts) as reported by the student. Dummies for white, black, hispanic, and asian ethnicity are estimated but not reported (none are significant, except for white ethnicity in Panel B, which is negative). Demographics include a gender dummy, age, and marital status. Robust standard errors are reported in parentheses below point estimates. Constants are estimated but suppressed. Panel A includes 320 observations; Panel B, 230 observations.

Panel A: Interview Bids					
	(1)	(2)	(3)	(4)	(5)
Optimism	-0.026*	-0.025*	-0.027*	-0.025*	-0.024*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
US Citizen			-0.303**	-0.367***	-0.397***
			(0.13)	(0.12)	(0.11)
Sponsored				-1.421***	-1.209***
				(0.29)	(0.28)
Job importance					0.251**
					(0.11)
Total offers					0.147***
					(0.03)
Ethnicity	No	Yes	Yes	Yes	Yes
Demographics	No	Yes	Yes	Yes	Yes
Panel B: Companies Contacted					
	(1)	(2)	(3)	(4)	(5)
Optimism	-0.909***	-0.670***	-0.754***	-0.747***	-0.700***
	(0.22)	(0.20)	(0.21)	(0.21)	(0.22)
US Citizen			-8.281***	-8.945***	-8.942***
			(2.46)	(2.31)	(2.27)
Sponsored				-5.553	-3.033
				(5.41)	(5.82)
Job importance					4.097*
					(2.32)
Total offers					1.994**
					(0.83)
Ethnicity	No	Yes	Yes	Yes	Yes
Demographics	No	Yes	Yes	Yes	Yes
R-squared	0.04	0.14	0.18	0.19	0.23

Table 5: Optimism and Search Efficiency

The dependent variable is job search efficiency: the number of interviews the student received scaled by the number of bids that a respondent placed in the auction system. Dummies for white, black, hispanic, and asian ethnicity are estimated but not reported (none are significant). Age and marital status are estimated as demographic controls but are suppressed. Robust standard errors are reported in parentheses below point estimates. Panel A includes 320 observations; Panel B, 230 observations.

	(1)	(2)	(3)	(4)
Optimism	0.018** (0.01)	0.018** (0.01)	0.021*** (0.01)	0.020** (0.01)
Male		-0.181*** (0.07)	-0.188** (0.07)	-0.187** (0.07)
US Citizen		0.184** (0.08)	0.183** (0.08)	0.182** (0.08)
GMAT (total)			-0.001 (0.00)	-0.001 (0.00)
Prior salary			0.001 (0.00)	0.001 (0.00)
GPA(term 1)			0.095 (0.14)	0.094 (0.14)
Job Importance				-0.060 (0.06)
Constant	-0.081 (0.17)	0.019 (0.36)	0.079 (0.77)	0.138 (0.77)
Observations	268	267	265	265
Ethnicity	Yes	Yes	Yes	Yes
Demographics	Yes	Yes	Yes	Yes
R-squared	0.02	0.09	0.10	0.11

Table 6: First-year Internship Outcomes

The dependent variable is a dummy for whether the respondent had successfully secured a summer internship by the beginning of Term 4, which occurs in late March. Point estimates are reported as changes in the probability associated with a one-standard deviation change in a continuous variable, or else a shift from 0 to 1 in a binary variable. Robust standard errors are reported in parentheses below marginal probabilities.

	(1)	(2)	(3)	(4)	(5)
Optimism	0.023*** (0.01)	0.019** (0.01)	0.021*** (0.01)	0.022*** (0.01)	0.019** (0.01)
Male		-0.163** (0.07)	-0.177** (0.07)	-0.175** (0.07)	-0.194** (0.08)
Black		-0.432** (0.21)	-0.484*** (0.18)	-0.478*** (0.18)	-0.531*** (0.15)
White		0.109 (0.10)	-0.011 (0.11)	0.005 (0.11)	-0.043 (0.11)
Hispanic		0.046 (0.15)	0.013 (0.15)	0.032 (0.15)	0.025 (0.16)
Asian		-0.063 (0.10)	-0.073 (0.10)	-0.041 (0.10)	-0.083 (0.11)
Age		-0.023** (0.01)	-0.023** (0.01)	-0.022** (0.01)	-0.035*** (0.01)
US Citizen			0.184** (0.08)	0.153* (0.08)	0.161** (0.08)
Married			0.130* (0.07)	0.126* (0.07)	0.148** (0.07)
Sponsored				-0.254** (0.11)	-0.199* (0.12)
Expected internships					0.043 (0.03)
Observations	263	263	262	261	250

Table 7: Stratified Hazard Estimates of Receiving First Job Offer

This table reports Cox proportional hazard models of the hazard of receiving a job offer. The hazard of a job offer between time t and $t + 1$ is the probability of receiving an offer in that interval conditional on not yet having received an offer. The baseline hazard is stratified according to the intended field of employment (Marketing, Management, different types of finance jobs, Consulting). Point estimates are reported as hazard impact factors; i.e., they scale the baseline hazard up or down multiplicatively by the magnitude of the point estimate. Standard errors are reported in parentheses below point estimates. Job Importance is a dummy for whether the student reported that his/her top priority was the job they received upon graduation. Intern Job Offer is a dummy for whether they received an offer from the employer with whom they held a summer internship. Sponsored is a dummy for whether their enrollment was sponsored by an employer. GPA BTA is the degree to which the student's expectations of their first term grade point average exceeded their actual GPA.

	(1)	(2)	(3)	(4)	(5)
Optimism	1.060*** (0.02)	1.049** (0.02)	1.063** (0.03)	1.088** (0.04)	1.091** (0.04)
Male		0.981 (0.19)	0.927 (0.18)	0.595** (0.13)	0.596** (0.13)
White		1.361 (0.42)	1.287 (0.42)	1.598 (0.52)	1.613 (0.53)
Black		0.963 (0.63)	1.806 (1.35)	0.674 (0.66)	0.682 (0.67)
Hispanic		1.805 (0.78)	1.629 (0.73)	1.663 (0.83)	1.652 (0.83)
Asian		1.114 (0.33)	1.206 (0.36)	1.113 (0.39)	1.120 (0.39)
Age		0.945* (0.03)	0.929** (0.03)	0.978 (0.04)	0.980 (0.04)
US Citizen		1.589* (0.38)	1.547* (0.36)	1.865*** (0.45)	1.855** (0.46)
Married			1.369* (0.24)	1.198 (0.23)	1.183 (0.23)
Job importance			1.159 (0.12)	1.381** (0.18)	1.375** (0.18)
Intern job offer				4.998*** (1.13)	5.039*** (1.14)
Sponsored					0.894 (0.49)
Observations	209	209	197	164	163

Table 8: Getting Promoted

The dependent variable in Panel A is a dummy for whether the respondent was still working at the same company as the one they joined upon graduation. The dependent variable in Panel B is a dummy for whether they had been promoted in that job. Dummies for white, black, hispanic, and asian ethnicity are estimated but not reported (none are significant). Demographics include a gender dummy, age, and marital status. Admissions controls include prior salary at the job before earning the MBA, the total GMAT score, undergrad degree, and US Citizen. Finance is a dummy for whether the respondent went into investment banking, sales and trading, VC/PE, asset management, or another finance area (including possibly corporate treasury). None of these omitted controls is significant in either Panel A or Panel B. Point estimates are reported as changes in the probability associated with a one-standard deviation change in a continuous variable, or else a shift from 0 to 1 in a binary variable. Robust standard errors are reported in parentheses below marginal probabilities. 323 observations are used, but 10 are lost to attrition in columns (3) and (4).

Panel A: Remaining at the job				
	(1)	(2)	(3)	(4)
Optimism	0.002 (0.01)	0.001 (0.01)	0.003 (0.01)	0.004 (0.01)
Charisma			0.003 (0.01)	0.025 (0.02)
Future CEO				-0.022 (0.02)
Outwardly optimistic				0.004 (0.01)
Finance		-0.110 (0.07)	-0.097 (0.07)	-0.099 (0.07)
Ethnicity	No	Yes	Yes	Yes
Demographics	No	Yes	Yes	Yes
Admissions	No	Yes	Yes	Yes
Panel B: Promotion Probabilities				
	(1)	(2)	(3)	(4)
Optimism	0.014** (0.01)	0.012** (0.01)	0.013** (0.01)	0.014** (0.01)
Charisma			0.005 (0.01)	0.022 (0.02)
Future CEO				-0.018 (0.01)
Outwardly optimistic				0.005 (0.01)
Finance		-0.123** (0.05)	-0.111** (0.05)	-0.109** (0.05)
Ethnicity	No	Yes	Yes	Yes
Demographics	No	Yes	Yes	Yes
Admissions	No	Yes	Yes	Yes

Table 9: A Horserace Between Internal Optimism and Projected Traits

This table repeats key regressions from previous but includes variables obtained from the beauty contest conducted at the end of the MBA. Each Panel contains a separate set of regressions, where the dependent variables are taken from earlier tables in the paper. Column (1) is the number of companies contacted. (See Table 4, Panel B.) Column (2) is obtaining an internship offer in Spring (see Table 6). Column (3) search efficiency (see Table 5). Column (4) is the hazard of a job offer (see Table 7). Each specification includes the control variables indicated in the most complete model specification in that table.

Panel A: Optimism and Charisma				
	(1)	(2)	(3)	(4)
LOT-R	-0.568*** (0.21)	0.019** (0.01)	0.016* (0.01)	1.087** (0.04)
Charisma	-0.187 (0.14)	0.007 (0.01)	0.023*** (0.01)	1.075*** (0.02)

Panel B: Optimism and Expected Future Success				
	(1)	(2)	(3)	(4)
LOT-R	-0.567*** (0.21)	0.019** (0.01)	0.018* (0.01)	1.093** (0.04)
Future CEO	-0.471*** (0.14)	0.027* (0.02)	0.017*** (0.01)	1.053** (0.02)

Panel C: Optimism and Perceived Optimism				
	(1)	(2)	(3)	(4)
LOT-R	-0.625*** (0.21)	0.020** (0.01)	0.019** (0.01)	1.085** (0.04)
Optimist	0.172 (0.20)	0.006 (0.01)	0.008 (0.01)	1.051 (0.03)

Table 10: Do Optimists Have Private Information about Job Search Outcomes?

This table explores how respondents match to desirable companies. In round 5 of the survey, respondents are asked to name the two companies they would most like to work for. Then they are asked to state the probability that they will receive a job offer from one of these two companies. In the first three columns, the dependent variable is the stated probability of receiving a job offer. In columns (4)-(6), the dependent variable is a dummy for whether the respondent actually takes a job at this company. Job probability (the dependent variable in columns (1)-(3)) is included as a regressor in column (6). Job category is a control for the stated field of interest at the time of the survey. Ethnicity controls are included in columns (3) and (6) but suppressed for brevity. A constant is estimated in each model but suppressed for brevity.

	Beliefs			Outcomes		
	(1)	(2)	(3)	(4)	(5)	(6)
Optimist	1.269*** (0.38)	1.352*** (0.36)	1.679*** (0.40)	0.008 (0.01)	0.009 (0.01)	0.005 (0.01)
Male		-10.861*** (3.60)	-13.308*** (4.13)		-0.026 (0.06)	-0.033 (0.11)
Age		-0.389 (0.53)	0.169 (0.57)		0.000 (0.01)	-0.031* (0.02)
US citizen			9.982** (4.14)			0.017 (0.11)
Married			4.646 (3.31)			0.218*** (0.08)
Prior salary			0.028 (0.02)			0.006*** (0.00)
GMAT			0.133*** (0.05)			-0.000 (0.00)
Bus. degree			3.456 (5.73)			0.224* (0.13)
Arts degree			2.632 (3.38)			0.072 (0.09)
Job Probability						0.004** (0.00)
Ethnicity	No	No	Yes	No	No	Yes
Job Category	No	No	Yes	No	No	Yes
Observations	201	201	199	323	323	183
R-squared	0.05	0.12	0.29	.	.	.

Appendix A. Data Description

The data used for this paper come from four distinct sources: (1) an online survey administered to MBA students 8 times during their two year program; (2) data from the admissions office, detailing demographics, GMAT test scores and prior work experience; (3) data from the Career Management Center detailing their participation in an interview bidding system, through which students bid on interview slots for jobs at companies that participate in recruiting at the school in question; and (4), data from a follow-up survey conducted two years after graduation. This appendix provides more detail about each of these data sources.

The Books and Bucks Survey

The first source of data is an eight-wave survey administered on-line to MBA students. Each time the survey was administered, the students were contacted via email and made aware of a voluntary, anonymous survey that could be accessed through a banner on the school's student intranet. The length of the survey varied each time, but was designed to take around 5-10 minutes to complete.

An overview of the material included in the survey is contained in Table 11.

Table 11: Survey Overview

Survey Round	Survey Timing	LOT-R	Expectations:		Hindsight	Satisfaction
			Grade	Job		
1	Aug. 2005	X	-	-	-	-
2	Aug. 2005	-	X	X	-	-
3	Jan. 2006	-	X	X	-	-
4	Mar. 2006	-	X	X	-	-
5	Aug. 2006	-	X	X	X	X
6	Jan. 2007	X	X	X	X	-
7	Mar. 2007	-	X	X	X	-
8	Apr. 2007	-	-	-	X	X

Survey 1 was conducted in early August, 2005, when the students were still in the preterm orientation program. It consisted solely of the LOT-R test, which is described in its entirety below. Survey 2 was conducted in late August, 2005, and consisted of questions asking students to state their expectations of their classroom and job-search performance. A similar set of questions was used in Surveys 3 and 4.

Survey 5 was conducted when the students returned for the second year of school, and mimicked surveys 2, 3, and 4, with the addition of questions surrounding whether

their summer internship matched their expectations. Surveys 6 and 7 were similar to surveys 3 and 4, but included an additional LOT-R test to validate the measure in our data. Kaniel, Massey and Robinson (2010a) explores the within-person stability of the LOT-R over time. Surveys 7 and 8 occurred at the beginning and end of the final term; the final survey includes retrospective questions on satisfaction during the MBA.

In addition to the responses obtained from each online survey, we also have access to the actual grade each student received in each class, allowing us to compare expectations of classroom performance with actual classroom performance. This is explored in detail in Kaniel, Massey and Robinson (2010b).

The Life Orientation Test-Revised

The following is a reproduction of the LOT-R obtained from Professor Charles Carver. This is based on Carver, Scheier and Bridges (1994). Items in brackets are fillers. Negative responses are reverse scored so that scale runs from 5-30.

- A I agree a lot (5 points)
- B I agree a little (4 points)
- C I neither agree nor disagree (3 points)
- D I DISagree a little (2 points)
- E I DISagree a lot (1 point)

1. In uncertain times, I usually expect the best.
2. [It's easy for me to relax.]
3. If something can go wrong for me, it will.
4. I'm always optimistic about my future.
5. [I enjoy my friends a lot.]
6. [It's important for me to keep busy.]
7. I hardly ever expect things to go my way.
8. [I don't get upset too easily.]
9. I rarely count on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.

The Best in Show Survey

The following table reports the pairwise correlations between the LOT-R and the variables obtained from the beauty contest.

Table 12: Projecting Optimism

This table presents correlations between the LOT-R measure conducted in August, 2005 and the responses from a “beauty contest” conducted in May, 2007. Charisma(Own) tallies the number of votes each person received “Who is the most charismatic person in your section? Name the top 5.” Charisma (BC) tallies the votes for “Who is the person viewed as most charismatic by others in your section? Name the top 5.” Similarly, Future CEO (own/bc) tallies responses to “(Who do you think/Who do others think) is most likely to be CEO? Name the top 5.” Optimist (own/BC) tallies answers to “Who (do you think/do others think) is the most optimistic person in your section? Name the top 5.” Best friend is the number of votes each person received for “Name your five closest friends.”

	LOT-R	Charisma		Future CEO		Optimist		Best Friend
		Own	BC	Own	BC	Own	BC	
LOT-R	.							
Charisma(Own)	0.181	.						
Charisma(BC)	0.202	0.943	.					
Future CEO (Own)	0.125	0.456	0.417	.				
Future CEO (BC)	0.147	0.552	0.542	0.933	.			
Optimist (CEO)	0.128	0.545	0.504	0.059	0.080	.		
Optimist (BC)	0.138	0.620	0.594	0.088	0.136	0.944	.	
Best Friend	0.054	0.370	0.343	0.093	0.152	0.309	0.338	.

Career Management Data

The online surveys are augmented by data from the Career Management Center. Companies that recruit on campus maintain a list of students who are directly invited for interviews, and they also allocate a certain number of interviews to the auction. Students use non-transferable, non-redeemable points to bid on interview slots. In addition, the Career Management Center maintains a database recording any and all job offers that students receive (including offers that are not accepted). This database records the date of the offer, a flag for whether it was accepted, the date of the acceptance if accepted, the starting salary, and the signing bonus.

Admissions Data

The data used in this paper also include data obtained from the admissions office. These data include the variables listed in Table 2.