

The Importance of Being An Optimist: Evidence from Labor Markets *

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Abstract

This paper shows that dispositional optimism is a stable personality trait that has a pronounced impact on job search outcomes. Studying a cohort of MBA students, we find that repeated within-person measurements of dispositional optimism are highly correlated over time and are not explained by major life events such as classroom performance or job placement outcomes. Dispositional optimism does affect job market perceptions and outcomes. Optimistic students tend to place less weight on the importance of landing a job after graduation. They also believe that their initial starting salaries will be higher than those of their peers, but these beliefs do not materialize. In spite of these negatives, optimists outperform their peers in the job search process in many respects. They are more likely to hold summer internships by the spring of their first year, and they receive full-time job offers faster than their peers. There is no evidence, however, that they find lower quality jobs, and that this accounts for faster times to first job offer.

Psychologists often distinguish between two types of optimism: dispositional optimism and situational optimism—or, paraphrasing from Peterson (2000), big optimism

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and little optimism. 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? Is life's glass half full or half empty? Answers to these questions 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.

Both types of optimism have been shown by psychologists to affect a wide range of behaviors, although the link between big and little optimism is a subject of debate.¹ While there is ample evidence that holding miscalibrated beliefs about a particular outcome can be detrimental to one's well-being, there is also plenty of evidence that optimism, in the right doses, can improve medical and psychological outcomes. Economists, on the other hand, mostly view the optimism glass as a glass half empty.²

The ultimate goal of this paper is to study the importance of dispositional optimism in one important economic domain: the labor market. We report results of a multi-year, multi-phase survey of students in the daytime MBA program at a major midatlantic university. The study contains information gleaned from students' own responses to questions about their dispositional outlook, the likelihood of various grade- and job-related outcomes, as well as complete archival and admissions-related data. Thus, our study allows us to measure students' psychological disposition, their beliefs, as well as the actual outcomes that arise as a result of their attitudes and the choices they make

¹The references listed at the end of the paper contain numerous examples of medical and health-related outcomes that are affected by dispositional optimism. Dispositional optimists recover from surgery faster, adhere to health regimens more steadfastly, apply sunscreen more dutifully, smoke less, and save more. Work from Weinstein (1980) and others shows a darker side to optimism, pointing out that individuals systematically underestimate their susceptibility to a wide range of life risks.

²A notable recent exception is Puri and Robinson (2007), who distinguish moderate from extreme optimism and find that moderate optimism is associated with a range of prudent behaviors, while extreme optimists tend to engage in less prudent behaviors. This supports the view of optimism espoused in Taylor and Brown (1988, 1994).

along the way.

Our paper makes three basic contributions that link attitudes, beliefs, and economic outcomes.

First, we demonstrate the stability of dispositional optimism over time and changing circumstances. To do this, we analyze within-subject variation in repeated measurements of dispositional optimism over time in a large sample of MBA students. Students who took part in a multi-phase survey of grade expectations and job placement expectations participated in two LOT-R measurements. The first measurement occurred during the orientation period prior to the first year of the two-year program. The second measurement took place upon return from the winter recess during the second year of the program. In the intervening period, many of the hopes, dreams, and expectations surrounding the educational experience have either been realized or else have been shown to be false. Yet the dispositional optimism measured at the two points in time is remarkably consistent, and the difference is effectively unexplained by intervening life circumstances. This contribution provides support for the idea that important aspects of optimism can be fruitfully analyzed as individual differences—effectively person-specific personality fixed effects that lead to a variety of beliefs and outcomes.

Second, we show that ‘big’ optimism affects ‘little’ optimism. That is, we show that dispositional optimism is correlated with situational optimism regarding labor market outcomes. Dispositional optimists believe that they will earn more money than their peers in their first year after school. This holds true controlling for a wide range of factors, such as demographics, past work history, and fixed effects for intended occupation field. This adds to work in Kaniel, Massey, and Robinson (2007) which shows a link between dispositional optimism and the evolution of miscalibrated expectations about classroom performance.

Finally, we show that dispositional optimism is an important determinant of job search behavior and labor market outcomes. In particular, optimism affects the perceived

importance of jobs for MBA students, and it affects the rate at which they receive job offers. Optimists place less importance on landing a job, yet they are more likely to have received first-year internship offers by spring of their first year, and their profession-adjusted hazard of receiving a job offer is higher.

Interestingly, while ‘big’ optimism impacts labor market outcomes, ‘little’ optimism does not. That is, beliefs about salary outcomes do not affect the hazard of receiving a first job offer. This is true regardless of whether the model is estimated with dispositional optimism and other controls. Not only does this help to establish a clear logical path between dispositional optimism, situational optimism, and labor market outcomes, but it also weighs against the idea that these beliefs reflect private information about relative quality or desirability.

One explanation for the link between dispositional optimism and job search outcomes is that optimists, content to accept lower quality jobs, focus their search efforts where yields are higher because jobs are in lower demand. We test for this possibility in a number of ways. First, we measure the time between the offer and acceptance of a job. This waiting time is not shorter for optimists, as this alternative would suggest. We also look at starting salaries. Optimists do not earn less than their counterparts (nor do they earn more, as they predict they will earlier in their MBA careers). There is evidence, however, that optimists place greater value on dimensions of job search outcomes not captured by salary. When we look at the subset of students who have multiple offers, we find that optimists are more likely to choose the lower paying alternative.

These findings add to a rapidly growing body of work in economics and finance that links behavioral biases to economic outcomes. Unlike our work, however, most prior work stresses that miscalibrated beliefs about uncertain future outcomes are necessarily bad. Odean (1998) and Barber and Odean (2000) demonstrate that biases in decision-making cause investors to earn poorer returns than they would in the absence of the bias. Moskowitz and Vissing-Jorgensen (2002) show that entrepreneurs earn lower risk-

adjusted returns than non-entrepreneurs, pointing to excessive optimism about future prospects as one possible explanation. Indeed, this view comports with that put forward by Coelho, De Meza, and Reyniers (2004), Camerer and Lovallo (1999) and others linking entrepreneurship to excessively optimistic views of one's own future performance.

Our work illustrates a brighter side to optimism, even if optimism is associated with distorted beliefs. Since our findings reflect individual personality differences, our work is related to recent work by Malmendier and Tate (2005) linking CEO overconfidence to managerial decision-making; to Jenter (2005), who shows that managers' misperceptions about firm value are an important determinant of managers' decision making; and to Bertrand and Schoar (2003), who demonstrate person-specific managerial style differences. In some sense, we study the same basic population (many of our respondents aspire to and will become corporate managers) at an earlier point in their careers (i.e., when they are earning their MBA), and illustrate the fact that individual personality differences affect decision-making along the road to becoming managers.

Finally, our work is related to a literature in labor economics that studies the returns to earning an MBA, and the factors that determine job placement outcomes. Oyer (2007) shows that Stanford MBAs who selected into finance and investment banking largely as a function of market conditions earned considerably more lifetime income than if they had chosen differently. Arcidiacono, Cooley, and Hussey (forthcoming) estimate the economic returns to an MBA. Regarding overall psychological disposition and productivity, Satterfield, Monahan, and Seligman (1997) show that a negative attributional style is associated with higher performance in law school.

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 degree to which our measure of optimism is a stable person-specific fixed effect, or whether it moves with the vicissitudes of the students' experiences in the MBA program. In Section 3 we relate optimism to labor market outcomes. Section 6

concludes.

1 Data

The key data source behind our study is an eight-wave online survey conducted between August 2005 and May 2007 of daytime MBA students at a midatlantic university. Like most daytime MBA programs at US schools, this program 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 survey procedure works 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 et al., 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.

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, at the beginning of the first half of the fall semester, students are asked to

predict the decile of their grade-point average (GPA) in that term. We provide the historical GPA range for each decile, so that student predictions reflect both relative and absolute performance levels. At the same time, 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.

Table 1 provides an overview of the timing of the various surveys that are conducted, along with the types of questions that are asked during each survey. Note that the LOT-R test is conducted twice, once during the initial orientation program, and again after winter break in the second year of the program. Surveys 2, 3, and 4 occur during the first year of the program and include questions that focused on job market expectations and grade expectations.

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) (along with whether they received a job offer from a summer internship) along with standard grade and job market expectations. The sixth round repeated the LOT-R, while rounds seven and eight 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.

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.

Table 2 about here

A total of 232 first-year M.B.A. students (a 53% response rate) participated in the first year of the study. Table 2 illustrates the fact that participant demographics closely match the student population. Female respondents comprise 22% of the survey (vs. 22% in the population), while Caucasian respondents comprise 48.7% of the survey group (vs. 44.7%). Survey respondents averaged 28.9 years of age at the time of entry into the program, while the overall population average was 29.1 years of age. The mean GMAT total score was 705 for respondents, versus 700 for non-respondents.

To induce 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.

The final piece of the data involves 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.

2 The Stability of Optimism over Time

Since our primary goal is to explore how individual personality differences impact labor market outcomes, our first step is to explore the stability of our optimism measure over time.

As we discussed above, students were administered a LOT-R test in the first survey, then again after returning from winter break in the second year of the program. The

timing is significant for several reasons. The initial LOT-R measurement was intended to coincide with orientation in the program, a time when new students would be making new friends, adjusting to a new environment, full of positive expectations about the good things that were about to happen to them as a result of successfully matriculating in an elite business school program. The second LOT-R measurement was conducted upon return from winter break in the second (i.e., the final) year of the program. This is a time that many students claim to be an emotional low-point in the program: not only is it winter time and they have they just returned from holiday break, but in the words of many, “the party is almost over; you realize that reality is about to set in.”

Thus, the timing in the two LOT-R measurements is designed to maximize the scope for within person difference in the LOT-R measurement if the dispositional optimism measure also captures capriciousness. Also, since many students have job offers by the time they return from winter break in their second year, this provides the greatest opportunity for the very hopes and aspirations that potentially informed their initial optimism to either be borne out or to be shown false.

Table 3 about here

As Table 3 illustrates, the mean LOT-R score is statistically indistinguishable across the two measurements. Moreover, the Time 1 measurements for those who participated in both LOT-R measurements is statistically indistinguishable from the Time 1 measurement of those who were lost due to attrition. Therefore, it is highly unlikely that the stability in our results across the two rounds of measurement is a by-product of losing participants who were in the tails of the distribution to begin with.

Table 4 about here

Table 4 illustrates that the within-subject correlation in the two measures is strong. The overall correlation between the two measures is $\rho = 0.72$, which is highly significant. The

correlation is strong within the set of positively framed and negatively framed questions as well. Within the set of positively oriented LOT-R questions the correlation is $\rho = 0.62$, whereas in the negative questions $\rho = 0.70$.

What factors can be attributed to the change in dispositional optimism over time? Table 5 suggests that changes in interim life circumstances have no explanatory power in understanding changes in the LOT-R. In the first two columns of Table 3, the dependent variable is the change in LOT-R for the 232 subjects that took both surveys. The independent variables in factors thought to be important measures of success in the MBA program (column 1) and then also demographic factors (column 2). Models 3 and 4 replace the change in the LOT-R with the Time 2 LOT-R measurement, and include the Time 1 LOT-R as a dependent variable. In all four specifications, the only factors that affect the change in the LOT-R (or the second measurement conditional on the level of the first measurement), are factors which were predetermined before the first measurement was taken. Other models that included fixed effects for a respondent's prior industry affiliation or fixed effects for the class cohorts that students belonged to showed similar results, but are suppressed for brevity.

Table 6 repeats the basic message of Table 5 but instead of modeling the difference between the two points in time, it instead models Time 2 optimism as a function of Time 1 optimism. By allowing the loading on Time 1 optimism to drop below 1, it picks up a marginally significant negative loading on the grade point average in the first term of the program. However, this is only significant at the ten percent level. Otherwise the message is the same whether we model the difference in the two optimism terms or else allow the data to deconstruct the second optimism measure into a constant term and a loading on the first optimism measure. In either case, changes in optimism are unexplained by factors that were not predetermined prior to the first assessment.

3 Optimism and Labor Market Outcomes

Having illustrated in the previous section that dispositional optimism is a personality trait that is unmoved by the vicissitudes of the MBA experience, we now turn to an analysis of the impact of optimism on labor market outcomes. Our analysis unfolds in the same way that the respondents' labor market experience unfolds. First we report regressions that model the probability a respondent places high importance on the job they land after graduation. This measurement was taken in round 2, at the beginning of the fall semester in the first year. Then we explore first-year internship outcomes. 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.

3.1 The Importance of a Job upon Graduation

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 7, 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 fall into this category.

Table 7 illustrates that optimists are significantly less likely to place the greatest importance to getting a job. We interpret this to mean that they search less intensively (equivalently, they search for shorter amounts of time). As we show below, this interpretation is warranted, based on the fact that respondents who do list getting a job as the most important factor experience longer durations in the without-job-offer state.

The table includes a number of controls for other factors that might be influencing job search intensity. Males are no different than females in their tendency to report jobs as the item of primary importance.³ Respondents who self-report white ethnicity are not statistically less likely to emphasize job outcomes than asians (the omitted ethnic category). Black respondents are less likely in some specifications, but they comprise a very small fraction of the respondent pool, therefore this effect is driven by only a few respondents.

Approximately 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.

In addition to the LOT-R measurement, the table includes two other behavioral variables. GPA BTA measures the strength of the better-than-average effect with respect to the first term's grades. This has no statistically significant effect on job importance. A more direct measure of job-related positive illusion is the number of internships the student expects to get. Again, this measure is uncorrelated with job search intensity.

³The same statement is true in a simple test of job search intensity across male/female categories; i.e., not holding constant the LOT-R score. Indeed, the LOT-R scores are not statistically different by gender in our sample.

3.2 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. Therefore modeling internship outcomes is a key ingredient to understanding the overall relation between optimism and labor market outcomes. We provide this analysis in Table 8.

The dependent variable in Table 8 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). Right-hand side variables include LOT-R, gender, ethnicity, age, 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.

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.

3.3 Post-Graduation Employment Outcomes

Next we turn to models that estimate the hazard of receiving a job offer at a point in time. Since many students receive multiple offers before making a final decision, we model the amount of time to the first job offer. Formally, the hazard function for student i at time t can be expressed as

$$h_i(t) = \frac{f_i(t)}{1 - F_i(t)} \quad (1)$$

where $f(t)$ is the density function associated with the event at time t and $F(t)$ is the cumulative distribution function associated with the event at time t . Writing the survivor function, $1-F(t)$, as $S(t)$, this can be expressed as

$$h_i(t) = -d\ln(S_i(t)), \quad (2)$$

where $S_i(t)$ is the survivor function at time t . Following standard practice, we assume a proportional hazard specification which allows us to write the hazard of firm i at time t as

$$h_i(t) = h(0)e^{x'\beta} \quad (3)$$

where $h(0)$ is the baseline hazard, x is a vector of covariates, and β is a coefficient vector.

Table 9 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.

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 5% 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 jumps to the 1% level.⁴

A number of demographic controls are significant determinants of job search durations, yet these do not drive out the significance of the LOT-R. Echoing the results for initial internship placement, white female respondents experience the shortest durations 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 means that older respondents are less likely to leave their summer internships with a job offer in hand.

Contrasting attitudes with beliefs, we find that including a measure of how better-than-actual the respondent's GPA expectations were (GPA BTA) has no effect on job market outcomes. Thus, miscalibrated beliefs about one's own classroom performance do not affect job search outcomes. 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. Neither included by itself nor included in conjunction with other regressors from Table 9 did we find any impact of salary beliefs on hazards of receiving a first offer.

In contrast, the job importance parameter is important for determining durations of unemployment. Somewhat counterintuitively, this variable is associated with a dramatically lower hazard of obtaining a first job offer. Presumably this reflects two potential factors. One, respondents who place high importance on job outcomes may target a more selective group of employers, thereby facing lower unconditional odds of receiving a job. Second, such respondents may engage in a job search process that is more

⁴In the absence of demographic controls, optimists are more likely to receive a job offer from their summer employer. However, this finding is not robust to the inclusion of demographics, therefore this result is not being driven by a differential propensity to convert internships into job offers.

time-consuming because more off-campus search is involved.

Because the hazard functions modeled in Table 9 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 7—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 9 indicate that within occupational categories, optimists have better labor market outcomes. Nevertheless, we take this issue up in greater detail in the next subsection.

3.4 Do Optimists Accept Lower Quality Jobs?

One interpretation of the preceding results illustrate that in some sense 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. Equivalently, perhaps optimists place a lower value on continued search because their expectations

Table 10 uses Poisson regressions to model the amount of time that passes between the receipt of the job that will later be accepted, and the actual acceptance of that job. This variable is highly right-skewed: the median respondent accepts a job within 24 days, and over 10% of respondents accept a job within two days. Yet some respondents wait several months to accept a job offer.

The results from this table show that optimists do not more quickly accept the job offer they receive. In each of the five model specifications, the LOT-R is statistically

indistinguishable from zero. This speaks against the possibility that our findings are stemming from optimists simply being content with lower quality jobs.

The only observed characteristics that affect waiting times in Table 10 are gender and job importance. The time to acceptance for males is lower, which indicates a relative impatience. This is consistent with the findings from previous tables that women experienced better job search outcomes, since this indicates that women prefer to be choosier in accepting a job offer. In addition, the job importance variable has a significant impact on waiting times. Respondents who rank jobs the most important wait significantly longer than those who do not. This result corroborates our interpretation of the job importance parameter.

4 Optimism and Salary Outcomes

The analysis thus far has illustrated that optimists experience better job market performance in some sense. That is, they are more likely to receive early internship offers and they face a higher hazard of receiving a job offer. In this section we investigate the link between optimism and salary.

4.1 Salary Beliefs

We begin by exploring the link between optimism and salary expectations. To do this, we study two dependent variables designed to capture respondents beliefs about their relative salary performance. At the beginning of the first year, in the second survey, which occurs in the beginning of the first full term of classes, we ask students to report both their own expected salary as well as their beliefs about what the median graduate will earn. We repeat this measurement at the beginning of the final term of the first year.

Table 11 reports OLS regressions of salary beliefs on optimism and other controls. Throughout the eight regression specifications, optimists report a modest, but highly statistically significant belief that they will outperform their peers. That is, they demonstrate the “better than average” reported in many settings. This finding is robust to controlling for admissions criteria, including age, gender, prior incoming salary, GMAT scores; in addition, it is robust to the inclusion of fixed effects for the intended job field. Thus, it cannot be attributed to the belief that they are simply confident that they will enter a field paying a relatively higher median salary (investment banking versus general management, say).

Comparing the first four columns with the last four columns, we see that this effect is not something that is easily erased by repeated interactions with their peers. Indeed, the mean “better than average” effect in salaries grows over time. It is \$3,517 for the initial measurement, and grows to \$5,684 by the end of the year; however, this difference is not significant. In addition, the effect of dispositional optimism on better than average attributions is as strong at the end of the year as it is at the beginning.

This compliments work by Kaniel, Massey, and Robinson (2007) that explores the link between dispositional optimism and miscalibrated beliefs about classroom performance. They show that initially, the correlation between dispositional optimism and positive illusion about grades is positive. They also show that on average, repeated feedback over the first year of the program does not cause miscalibrated beliefs about grades to deteriorate—in fact, they initially get worse, then return to the baseline levels of miscalibration. Optimists, however, better internalize the feedback that they receive over the year, so that their grade miscalibration decreases monotonically throughout the year.⁵

⁵In the current setting, there is less scope to receive feedback, since both measurements are taken prior to any job outcome is realized. Indeed, both measurements occur prior to the on-the-job experience obtained through the summer internship.

In the present context, we see a related “better than average” effect. The average student expects a better than median salary, and this effect is more pronounced among optimists. Therefore, in spite of the improved labor market performance that has been shown above, dispositional optimists have optimistic initial beliefs about their salary outcomes after business school. The question that immediately arises is whether these optimistic beliefs are borne out.

4.2 Salary Outcomes

Table 12 shows that, in large part, these beliefs do not materialize. It reports OLS regressions of first-year starting salaries on the LOT-R and other variables. The dependent variable is the sum of the first-year starting salary plus the signing bonus. The mean for this variable is approximately \$118K per annum, but the interquartile range spans from \$104-\$135K, revealing a fairly low standard deviation.

When we do not include any additional controls, optimists show slightly higher starting salaries. In column (1), a one-standard deviation shift in LOT-R is associated with around \$3,000 of additional salary, but this is only significant at the 10% level. The point estimate grows to about \$3,200 per annum when we control for gender, ethnicity and age, however once again this effect is significant only at the ten-percent level. Even this modest significance level is lost once we include a control for the total number of jobs offered to the respondent.

The results from Table 12 are obtained without further controls for citizenship, occupation, or other variables. When we include fixed effects for occupation, the R^2 jumps to around 30%, but none of the variables of interest change sign or magnitude. The fixed effects reveal sizable variation in salary across occupations. Similarly, controlling for citizenship, GMAT, past salary, or admissions interview scores has no effect on quantities of interest. If anything, these controls drive down the significance of LOT-R even

further.

5 How Much Do Nonpecuniary Factors Matter?

There are several potential explanations for why optimists do not receive higher salaries. One is that their underlying quality is no different than less optimistic respondents. Another is that they simply do not place as much weight on salary in making their job decisions. To explore this possibility, we examine respondents with multiple job offers and examine which job offer is chosen. In particular, we ask whether respondents choose the offer with the highest salary among multiple offers.

To perform the analysis reported in Table 13, we identified the 116 survey respondents with career management data indicating that they had multiple job offers with reported salaries. Of these individuals, 67 had exactly two job offers, 28 had exactly three, and the remaining 21 had between four and seven. About 57% of respondents take the higher paying job. We use attitudes and characteristics to study the factors that determine this choice.

Table 13 shows that optimists are less likely to take the higher paying job. It reports probit regressions in which the dependent variable is one if the respondent took the higher paying job on LOT-R and a vector of other variables. Consistent with the interpretation of our Job Importance variable, those who place highest importance on getting a job are about 16% more likely to accept the higher paying job. Given that about 57% of respondents actually take the higher paying job, this effect is important. Optimists are less likely to accept a higher paying job. When we control for job importance, this effect becomes significant at the 5% level.⁶

⁶This suggests that perhaps optimists are offered higher salaries than others, but they simply choose not to accept them. In general, this is not true. A variant of Table 12 in which actual salary is replaced with maximum offered salary shows that optimists do not receive systematically higher salary offers. Thus, their initial beliefs about salary outcomes are still inaccurate, even in the broader sense.

6 Conclusion

The vast majority of empirical work in behavioral finance and economics points to the bad outcomes associated with overconfidence in one's own ability or over-optimism about future outcomes. This paper is different. It shows that optimism can be a good thing. We show that optimism has a pronounced positive effect on job market outcomes. Of course, we have to stop short of making statements about overall utility, but we can cleanly trace an increase in ex ante optimism to ex post improved performance in the labor market.

There are a number of other pertinent questions that we are capable of answering with our data that will also appear in a future draft. Many students enter an MBA program hoping to switch careers. How is career switching—both actual and intended—affected by optimism? Can career switchers help explain some of our findings? Does optimism predict entrepreneurial aspirations?

Putting these questions aside, the current work illustrates the importance of individual psychological differences for impacting economic outcomes. Psychologists have long understood that a self-aggrandized, optimistic view of the world is not only a common feature of mentally healthy populations, but these traits promote psychological welfare. Our findings illustrate that these tendencies spill over into economic life as well. In our study, respondents who were dispositionally optimistic held consistently miscalibrated beliefs about their own earning potential, and appear to search with lower intensity than other respondents. Nevertheless, these miscalibrations do not. Clearly, more work is needed to develop a better understanding of the bright side of psychological bias.

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Table 1: Survey Overview

This outlines the timing and content of the eight-phase survey conducted beginning in August, 2005. For each of 8 survey rounds, the table provides the date of that survey round, as well as a legend for whether the survey included a Life Orientation Test-Revised (LOT-R), Grade and Job Outcome Expectations, questions that asked students to look back and recall past experiences in the MBA (hindsight), and overall satisfaction with past experiences.

Survey Round	Survey Timing	LOT-R	Expectations:			Satisfaction
			Grade	Job	Hindsight	
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

Table 2: 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. GMAT (T), (V), and (Q) are total, verbal and quantitative GMAT scores (standardized entrance exams for an MBA degree). Business, engineering, arts denotes the fraction of each sample that earned an undergraduate degree in business administration, engineering, or arts and sciences. GPA (1), (2), (3) denotes the grade point average in each of the first three terms of study in the program. 232 students participated in the first four waves of the study, and are thus included in the job search regressions.

	Participant Sample		Overall Population	
	Mean	SD	Mean	SD
Male	0.78	0.42	0.78	0.41
Age	28.86	3.05	29.14	3.18
White	0.47	0.50	0.45	0.50
Black	0.02	0.14	0.04	0.21
GMAT (T)	703.95	38.62	700.94	40.02
GMAT (V)	39.62	4.38	38.96	4.61
GMAT (Q)	46.42	3.54	46.58	3.55
Business	0.09	0.28	0.12	0.33
Engineering	0.21	0.41	0.19	0.39
Arts	0.32	0.47	0.32	0.47
US Citizen	0.60	0.49	0.54	0.50
GPA (1)	3.59	0.24	3.56	0.25
GPA (2)	3.49	0.27	3.45	0.29
GPA (3)	3.50	0.34	3.48	0.32

Table 3: The Stability of LOT-R over Time

This table reports summary statistics for the LOT-R on participants who were measured at Time 1 (at the beginning of the program), at Time 2 (after winter break of the second year), and who dropped out between the two measurements. LOT-R is coded on a 6-30 scale, with 30 being most optimistic and 6 being least optimistic.

	Time 1		Time 2	
	Mean	SD	Mean	SD
Took Second Survey	22.14	3.9	21.86	3.86
Exited Survey	22.33	4.06	-	-
Paired t-test	$H_0:(\text{Time 1}=\text{Time 2})$		1.23	

Table 4: Time-series correlation in LOT-R

This table reports the correlation across subjects between the two LOT-R measurements. Overall refers to the correlation in the overall LOT-R score, which is the sum of six questions: three positively oriented, three negatively oriented. Positive and Negative report the correlation in these two components of the total LOT-R score. All correlations are highly statistically significant.

Time = 2:	Time = 1:		
	Overall	Positive	Negative
Overall LOT-R Score	.72		
Positive Questions		.62	-.42
Negative Questions		-.41	.70

Table 5: Explaining Changes in Dispositional Optimism

The dependent variable is the difference in an individual's LOT-R score, measured as $LOTR_2 - LOTR_1$. The first three questions were measured prior to the second measurement of the LOT-R, but after returning from the summer internship for the second year of study. GPA measures the grade point average of the student in the first, third and fourth term of the first year. OLS regressions are reported with t-statistics in parentheses. Single, double, and triple asterisks denote significance at the 10, 5, and 1% level, respectively.

	(1)	(2)	(3)
How many job offers do you currently have?	-0.149 (0.14)	-0.154 (0.20)	-0.145 (0.19)
Have you accepted any jobs?	0.126 (0.45)	0.551 (0.55)	0.720 (0.54)
How many internships did you have?		0.202 (1.55)	0.267 (1.56)
GPA(t4)		0.946 (1.10)	0.841 (1.08)
GPA(t3)		0.540 (1.02)	0.373 (0.97)
GPA(t1)		-1.283 (1.32)	-1.259 (1.32)
Male			-0.498 (0.63)
White ethnicity			1.154** (0.45)
Constant	-0.147 (0.75)	-1.701 (4.66)	-1.294 (4.72)
Observations	229	176	176
R-squared	0.01	0.03	0.07

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6: Explaining Time 2 Optimism

This table approaches the same question as Table 5 but from a different perspective. The dependent variable here is LOT-R measurement at time 2, and the LOT-R measurement at time 1 is included as a right-hand side variable. OLS regressions are reported with standard errors in parentheses. Single, double, and triple asterisks denote significance at the 10, 5, and 1% level, respectively.

	(1)	(2)	(3)
LOT-R (Time 1)	0.728*** (0.045)	0.706*** (0.047)	0.697*** (0.056)
Male		-0.831* (0.48)	-0.324 (0.60)
Caucasian		1.317*** (0.37)	1.435*** (0.43)
Age		0.0143 (0.059)	0.0224 (0.073)
GPA(Time 1)			-1.925* (1.13)
GPA(Time 4)			1.296 (0.99)
How many summer internships?			0.921 (1.57)
Received offer from internship?			-0.438 (0.45)
Has offer at time 2			0.905 (0.72)
Has accepted offer by time 2			0.880 (0.58)
Constant	5.799*** (1.04)	5.921*** (2.21)	4.838 (5.18)
Observations	230	230	174
R-squared	0.52	0.56	0.56

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 7: The Determinants of Job Importance

The dependent variable is a dummy for whether the respondent attaches primary importance to the job they receive upon graduation. Right-hand side variables include the LOT-R, gender, dummies for white ethnicity and black ethnicity (omitted categories are hispanic and asian), age, the number of internships that the student expected to receive as of December of the same school year, 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. Reported in parentheses are p-values which report the significance of the test that the point estimate is equal to zero.

	(1)	(2)	(3)	(4)	(5)
LOT-R	-0.027*** (0.008)	-0.025*** (0.009)	-0.027*** (0.009)	-0.025*** (0.009)	-0.026*** (0.009)
Male		-0.038 (0.082)	-0.044 (0.082)	-0.032 (0.085)	-0.020 (0.086)
Ethnicity==White		-0.051 (0.067)	-0.038 (0.067)	-0.119* (0.071)	-0.116 (0.071)
Ethnicity==Black		-0.272 (0.216)	-0.296 (0.209)	-0.369** (0.180)	-0.362** (0.181)
Age		0.017 (0.011)	0.015 (0.011)	0.026** (0.012)	0.025** (0.013)
GPA BTA			0.020* (0.011)	0.013 (0.011)	0.013 (0.011)
Sponsored				-0.584*** (0.055)	-0.583*** (0.055)
Expected # Internships					-0.013 (0.033)
Observations	232	232	232	232	231

Table 8: Probit Estimation of 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. Right-hand side variables include the LOT-R, gender, dummies for white ethnicity and black ethnicity (omitted categories are hispanic and asian), age, the number of internships that the student expected to receive as of December of the same school year, and a dummy for whether the student's enrollment was sponsored by an employer. 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. Reported in parentheses are p-values which report the significance of the test that the point estimate is equal to zero. 232 observations are included.

	(1)	(2)	(3)	(4)	(5)
LOT-R	0.020** (0.008)	0.014* (0.008)	0.014* (0.008)	0.015* (0.009)	0.016* (0.009)
Male		-0.185** (0.075)	-0.185** (0.075)	-0.212*** (0.073)	-0.211*** (0.074)
Ethnicity==White		0.146** (0.066)	0.146** (0.066)	0.147** (0.067)	0.121* (0.069)
Ethnicity==Black		-0.445** (0.199)	-0.445** (0.199)	-0.482*** (0.176)	-0.499*** (0.165)
Age		-0.039*** (0.012)	-0.039*** (0.012)	-0.037*** (0.012)	-0.036*** (0.012)
Expected # Internships				0.052 (0.033)	0.047 (0.033)
Sponsored					-0.299*** (0.111)
Observations	232	232	232	231	231

Table 9: 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, Finance, 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. "Received full-time offer from internship?" 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)	(6)
LOT-R	1.065*** (0.025)	1.053** (0.026)	1.060** (0.027)	1.062** (0.028)	1.100*** (0.037)	1.100*** (0.037)
Male		0.860 (0.170)	0.832 (0.158)	0.832 (0.156)	0.541*** (0.122)	0.540*** (0.122)
Ethnicity==White		1.128 (0.263)	1.120 (0.252)	1.120 (0.254)	1.356 (0.291)	1.355 (0.291)
Ethnicity==Black		1.322 (0.881)	1.491 (1.010)	1.567 (1.069)	0.588 (0.557)	0.588 (0.558)
Age		0.948* (0.030)	0.947* (0.030)	0.947* (0.030)	0.995 (0.039)	0.995 (0.040)
US Citizen		1.624* (0.410)	1.576* (0.385)	1.548* (0.385)	1.926*** (0.454)	1.929*** (0.459)
Job Importance			0.831* (0.090)	0.831* (0.090)	0.693*** (0.092)	0.692*** (0.094)
Received full-time offer from internship?					4.927*** (1.092)	4.927*** (1.093)
Sponsored						1.011 (0.545)
GPA BTA				0.977 (0.031)		
Observations	181	181	181	181	154	154

Table 10: Waiting to Accept the Job Offer

This table reports Poisson regressions in which the dependent variable is the time between receiving an offer and accepting that offer. The sample is restricted to those offers which result in an acceptance; 113 observations are used. Each of the variables has been defined in tables above, except for Total Job Offers and GPA Belief Revision. Total Job Offers is the total number of job offers that the student received at the time that they accepted their offer. GPA Belief Revision is the change in the GPA BTA from term 1 to term 3. p-values appear in parentheses below point estimates.

	(1)	(2)	(3)	(4)	(5)
LOT-R	0.012 (0.019)	0.012 (0.019)	0.000 (0.019)	0.001 (0.019)	-0.002 (0.019)
Male		-0.280* (0.164)	-0.285* (0.157)	-0.281* (0.158)	-0.294* (0.158)
Ethnicity==White		0.057 (0.148)	0.016 (0.145)	0.012 (0.143)	0.020 (0.144)
Ethnicity==Black		-0.096 (0.219)	-0.194 (0.262)	-0.187 (0.272)	-0.178 (0.255)
Age		-0.010 (0.023)	0.000 (0.023)	0.001 (0.024)	-0.001 (0.023)
Job Importance			0.204** (0.095)	0.204** (0.095)	0.207** (0.095)
Total Job Offers			0.049 (0.054)	0.047 (0.058)	0.052 (0.055)
GPA Belief Revision					-0.012 (0.018)
GPA BTA				-0.006 (0.027)	
Observations	179	179	179	179	179

Table 11: Optimism and Salary Beliefs

This table assesses whether optimists believe they will earn more than other MBA students. It reports OLS regressions of salary beliefs on optimism and other characteristics. The dependent variable is the difference between one's own predicted salary and one's estimate of the median starting salary, expressed in dollars. These beliefs are measured at the beginning of the first year, and at the end of the first year. Admissions controls include a gender dummy, a white race dummy, age, highest salary prior to starting the MBA, GMAT total score, and whether the respondent is sponsored by his/her employer. Internship is a dummy for whether the respondent had secured a summer internship by the time the end-of-year survey was administered. Some regression specifications include field fixed effects, which are fixed effects for the respondents intended field of job specialization at the time the beliefs are measured. Robust standard errors appear in parentheses below point estimates.

	Beginning of Year Belief			End of Year Belief				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LOT-R	496.04** (239.52)	547.38** (244.71)	622.84** (264.01)	646.14** (261.93)	1,546.35*** (386.87)	1,690.76*** (385.69)	1,304.81*** (409.32)	1,444.12*** (424.19)
Job Importance			1,357.36 (2,407.29)	2,142.27 (2,645.86)			2,459.76 (3,493.40)	2,307.40 (2,647.98)
Internship							12,161.51*** (3,500.15)	11,090.42*** (3,867.53)
Observations	295	295	294	294	139	139	139	139
Field Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Admissions Controls	No	No	Yes	Yes	No	No	Yes	Yes
R^2	0.01	0.07	0.07	0.12	0.07	0.25	0.22	0.37

Table 12: Optimism and Salary Outcomes

This table examines whether optimists actually receive higher or lower starting salaries. It reports OLS regressions of reported starting salary on a vector of independent variables. Reported starting salary is the sum of the first-year annual salary plus the signing bonus (mean = \$118K; sd = \$23,514; interquartile range spans from \$104K - \$135K) . The right-hand side variables are as defined elsewhere. Robust standard errors appear in parentheses below point estimates. The constant term is suppressed for brevity.

	(1)	(2)	(3)	(4)	(5)
LOT-R	2,792.174*	3,215.212*	2,096.658	2,098.018	1,899.968
	(1,480.395)	(1,827.549)	(1,322.292)	(1,285.333)	(1,283.068)
Male		-57,462.993	-57,449.332	-57,441.432	-58,535.610
		(41,999.808)	(41,479.216)	(41,678.319)	(42,266.601)
Ethnicity==White		21,720.365	17,479.870	17,471.705	17,785.393
		(16,893.409)	(14,078.359)	(14,200.733)	(14,326.079)
Ethnicity==Black		-31,021.337*	-39,894.859	-39,878.202	-38,814.441
		(18,739.676)	(26,567.772)	(26,875.925)	(25,485.721)
Age		5,530.330	6,346.087	6,347.685	6,311.405
		(4,492.426)	(4,884.971)	(4,848.610)	(4,877.841)
Job Importance			21,463.414	21,461.470	21,879.258
			(15,802.458)	(15,863.213)	(16,116.273)
Total Job Offers			1,835.015	1,830.583	2,097.215
			(5,984.948)	(5,839.768)	(6,121.580)
GPA Belief Revision					-1,233.917
					(1,237.988)
GPA BTA				-12.415	
				(1,231.508)	
Observations	188	188	188	188	188
R^2	0.01	0.06	0.08	0.08	0.08

Table 13: When More is Not Always Better

This table measures the propensity for optimists to take the better paying alternative when they have multiple job offers to choose from. The table reports probit regressions on the sample of respondents with multiple job offers registered through the career services database who also participated in our initial survey. The dependent variable is a dummy that equals 1 if the respondent accepted the job with the highest offered salary among the choices s/he had available, zero otherwise. (NB: 57% of respondents accept the higher paying job.) The right-hand side variables are as defined in earlier tables. Point estimates are expressed as marginal changes in the probability of dependent variable equal to 1. Robust standard errors are reported in parentheses below point estimates.

	(1)	(2)	(3)	(4)	(5)
LOT-R	-0.015 (0.013)	-0.014 (0.013)	-0.033** (0.015)	-0.033** (0.015)	-0.032** (0.015)
Male		0.050 (0.104)	0.089 (0.113)	0.095 (0.117)	0.101 (0.117)
Ethnicity==White		-0.147 (0.098)	-0.239** (0.103)	-0.222** (0.108)	-0.228** (0.108)
Ethnicity==Black		-0.105 (0.280)	0.048 (0.339)	0.061 (0.334)	0.040 (0.348)
Age		-0.020 (0.018)	-0.043** (0.020)	-0.041** (0.020)	-0.041** (0.020)
Job Importance			0.164** (0.066)	0.169** (0.067)	0.169** (0.067)
GPA Belief Revision					0.005 (0.016)
GPA BTA				-0.000 (0.020)	
Observations	116	116	105	103	103