Economic Inquiry

THE STATE STREET MILE: AGE AND GENDER DIFFERENCES IN COMPETITION AVERSION IN THE FIELD

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Gender differences in "competitiveness," previously documented in laboratory experiments, are hypothesized to play a role in a wide array of economic outcomes. This paper provides evidence of competition aversion in a natural setting somewhere between the simplicity of a laboratory experiment and the full complexity and ambiguity of a labor market. The "State Street Mile" race offers both male and female participants a choice between two different levels of competition. Large, systematic age and gender differences are observed in the relationship between true ability and the decision to enter the more competitive race. Overall, qualified women and older runners are far less likely than qualified young men to enter a competitive race with prizes. However, the fastest young women unanimously enter the competitive race. Therefore, while we confirm age and gender differences in competitiveness in our field setting, the economic consequences to capable young women are rather small. (*JEL* J1, J7, M5)

I. INTRODUCTION

Gender differences in "competitiveness" are hypothesized to play a role in a wide array of economic outcomes, including the low representation of women among fortune 500 chief executive officers (Bertrand and Hallock 2001; Niederle and Vesterlund 2007). Although psychologists have a long history of documenting the reluctance of girls or women to enter competitions, economists have begun to study this phenomenon only recently. Psychologists have previously emphasized the tendency of women to underestimate their future performance on a number of different tasks (Deaux 1979; Pallier 2003).[1] Careful experimental studies by economists reveal that, in a laboratory setting, a number of different reasons underlie women's lower inclination to compete. These reasons include not only women's tendency to underestimate their own ability, but also greater aversion to risk, and uncertainty about their ability (Eckel 2008; Eckel and Grossman 2008; Gupta, Poulsen, and Villeval 2011; Niederle and Yestrumskas 2008). Niederle and Vesterlund (2007) control for these and other factors in a carefully designed experiment that provides strong evidence of a distinct preference to avoid the act of competition against men.[2] The purpose of this paper is to provide evidence of competition aversion in a natural setting somewhere between the simplicity of a laboratory experiment and the full complexity and ambiguity of a labor market. The behavior of runners in a race suggests that female competition aversion can be detected even in single-sex situations.

The "State Street Mile" race offers both male and female participants a choice between two different levels of competition. Those who believe they have superior ability, relative to participants of the same gender, are encouraged to enter a highly competitive, high-profile elite race with cash prizes. Other participants—those

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1. The tendency to understate ability can be reduced if the question is answered privately rather than announced in public (Heatherington et al. 1993).

2. Recent research by Gneezy, Leonard, and List (2009) documents that the direction of the gendered preference for competition is culture specific.

ABBREVIATION

QS: Qualifying Standard

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who believe they are slower runners and those who simply prefer a lower level of competition—pay the same entry fee and run the same course in age-group races with no cash prize. Systematic gender differences are observed in the relationship between true ability (as measured by actual time to run the mile, observed ex post) and the decision to enter the more competitive elite race. While fast young men are almost certain to enter the highly competitive race, a sizable minority of the fast young women do not choose to do so.

Niederle and Vesterlund (2007) argue that reluctance to compete against men is particularly costly to high-ability women because this group has the most to gain from entering the competition. This was true for the mixed-gender tournament they studied. However, we find that on this single-sex task the very fastest women are quite likely to enter the elite race. It is the middle range—above the qualifying standard but below the group most likely to win—where the largest gender differences in behavior are observed. Thus, although our results are consistent with experimental work suggesting that women tend to have competition-averse preferences, they also demonstrate that in some instances there might not be very much economic significance. In this context, the fastest women respond to financial incentives, and the economic consequences of the preference for competition aversion are therefore quite small.

In addition to the gender difference, this analysis identifies a reluctance of older qualified runners to enter the more competitive race, despite the fact that over the age of 40, winners are chosen based on age-graded times. This finding differs from recent experimental work by Charness and Villeval (2009), which shows that younger and older field subjects (employees below 30 years old and employees of the same firm above 50 years old) were equally willing to select a competitive payment option. In the State Street Mile, the propensity to compete in the highly competitive elite race among older men is similar to that observed for younger women, while older women are the least likely and young men are the most likely to enter a highly competitive elite race.

II. DATA

There are four highly competitive races. Athletes are invited to sign up for the men's or women's "elite" race if they expect to run the mile faster than the qualifying standard (QS) which is 4:30 for men and 5:30 for women. An additional pair of highly competitive races is offered to athletes over the age of 40. In the "elite masters" races, actual mile times are converted to age-graded times to determine finishing place.[3] This allows runners who are slowing down with age to engage in an adaptive competition. Cash prizes are awarded to the top three times in the elite races and the top three age-graded times in the elite masters races, and no cash prizes are offered to other participants.[4]

Data on the sex, age, and mile time of each participant in the elite races and age-group races between 2002 and 2008 are available at www.sbmile.com.[5] Fixed effects controls were created using the name and birth year of each runner.[6] For each runner, the first year of observation (2002–2008) was noted to indicate later familiarity with the State Street Mile race.

Published qualifying standards for the elite race are guidelines for participants and are not enforced by the race director.[7] Participants choose freely whether or not to enter the elite races. We evaluate the entry decisions of runners by comparing their finishing times with the qualifying standards. For the elite masters races, the time of a qualified runner depends upon age and gender. As there are no published qualifying standards for the elite masters races we apply the same standards used in the elite races on an

3. The age-graded time is computed using Jess Brewer's, "Masters Track & Field Age Graded Tables" http://jick.net/~jess/track/mtf/agt2006.html. The age adjustment at the age of 40 is about 6% for men and 19% for women, and then increases gradually with each additional year of age after 40. For example, a 5:00 mile time for a 50-year-old male converts to an age-graded mile time of 4:22. In the elite masters race, this runner would finish ahead of a 40-year-old runner who ran 4:50, as the younger runner's time converts to a slower age-graded time of 4:34.

4. Cash prizes were $500, $250, and $100 for both men and women in the elite races over the sample period. Cash prizes in the elite masters races were $150, $100, and $50 in 2003, but were lowered to $100, $75, and $50 in 2008. The top three runners in both the elite races and the less-competitive age-group races are given plaques that designate a first-, second-, or third-place finish in their respective race.

5. In a handful of cases ($n = 11$) an individual ran the age-group race as a warm-up to the elite race, yielding two conflicting observations. In each of these cases, the age-group observation was dropped from the sample.

6. A visual check was used to match those who had a typo or used a nickname in 1 year.

7. However, a runner in the elite race (below 40) must beat the QS in order to be eligible for prize money. No top-three runner in the elite race has ever failed to meet the standard.

TABLE 1
Proportion Entering Elite Race by Sex, Age Group, and Mile Time Relative to QS

	Below QS		At or Above QS	
	(1)	(2)	(3)	(4)
	Proportion in Elite Race	Sample Size	Proportion in Elite Race	Sample Size
Men (aged 16–39)	0.09	224	0.87	90
Women (aged 16–39)	0.07	105	0.64	47
Men (aged 40+)	0.04	267	0.45	101
Women (aged 40+)	0.04	55	0.28	74

age-graded basis. In other words, runners in the elite masters races are deemed to have met the QS if their age-graded time is faster than 4:30 for men and 5:30 for women. This is consistent with the advice given by the race director to prospective participants in the elite masters races.[8]

Although it is possible for an individual over the age of 40 to meet the QS for the elite race, only one runner above 40 ever chose the elite race over the elite masters race.[9] We therefore model the choice set as a binary decision for both older and younger runners, conditioning on actual mile time for younger runners and age-graded mile time for runners over the age of 40.

III. SAMPLE MEANS

The probability of entering a highly competitive elite race is strongly correlated with mile times relative to the QS. In each of the four groups (younger and older men and women), those below the QS are very unlikely to enter an elite race (Table 1, column 1). The main difference between groups is in the probability of entering an elite race, conditional on running faster than the QS (Table 1, column 3). This probability ranges from 85% for younger men to 28% for older women. Younger women are about three-fourths as likely as younger men to enter an elite race, conditional on an ex post mile time faster than the QS. Older men are even less likely than young women to enter an elite race, despite the age-adjusted intensity of competition, and older women are the least likely to enter an elite race, conditional on meeting the QS.

A pair of regressions presented in Table A1, columns 1 and 2, dispels any doubt that the lower propensity of qualified women and older runners to enter the more competitive elite race is statistically significant. Further tests of differences between the Table A1, column 2 coefficients reveal statistically significant differences between older and younger women (1%), and between older men and either group of women (10%). The question to be answered next is whether the observed between-group differences might be because of incorrect assessment of ability, competition aversion, or some other factor.

IV. A SIMPLE MODEL

Assume that runners gain utility from winning a cash prize and disutility from the humiliation of entering an elite race, but running slower than the QS. Moreover, assume that some (competition-loving) runners gain additional utility from running in an elite race, whereas other (competition-averse) runners experience disutility from running in an elite race. Each runner has the option to compete in an elite race, or to select a lower level of competition and enter their age-group race. Choosing to enter an elite race confers a (possibly negative) gain in expected payoff, which depends on the intrinsic enjoyment of competing, as well as expectations about prizes or humiliation.

This model can be summarized by Equation 1, which shows the utility of runner i who chooses optimally between entering the elite and age-group races, where C_i is an individual-specific measure of the preference for competition, $E(w_i)$ is the expected utility associated with winning a cash prize in the elite race, and $E(h_i)$ is the expected humiliation associated with running below the QS in the elite race:

$$(1) \quad U_i = \max\{C_i + E(w_i) - E(h_i), 0\}.$$

The value of U_i is bounded below by zero, the (normalized) utility associated with entering the less competitive race. Aversion to

8. This was conveyed to us by personal communication.
9. This man is coded as choosing to compete.

entering the competition regardless of expected mile time is captured by a negative value of C_i. $E(w_i)$ depends on the individual's expected distribution of possible mile times, the expected times of other runners, and i's preferences over cash prizes. $E(w_i)$ is a significant factor only among runners who both value winning and believe they have a good chance of winning. $E(h_i)$ depends on the individual's expected distribution of possible mile times, the location of that distribution relative to the QS, and the individual's attitude toward humiliation. $E(h_i)$ is a significant factor only among those who are likely to run slower than the QS.

Clearly, the probability of entering the competitive race is increasing in the value of C_i—those who love competition are more likely to enter than otherwise similar runners who are competition averse. However, the degree to which behavior reveals preferences for competition will vary by expected mile times. Under this model, virtually all of the slowest runners are likely to avoid the elite race; they are certain to miss the QS, and all but extremely competition-loving runners choose not to be humiliated. For runners who believe they can meet the QS, incentives will differ according to their level of competition aversion. Among those who enjoy competition, incentives align so that everyone above the QS will choose to compete. However, competition-averse runners who expect to run faster than the QS have conflicting incentives. The fastest among the competition-averse runners might gain enough additional (expected) utility from their realistic chance of winning a cash prize so that they will be willing to compete in the elite race. However, those who dislike competition enough will avoid the elite race, despite the race director's suggestion.

Note that the set of runners with intermediate expected mile times—those with a very small probability of either winning or falling below the QS—will reveal the most about their preferences for competition. For this group, $E(w_i)$ and $E(h_i)$ are each essentially zero and hence:

$$U_i = \max\{C_i, 0\}. \tag{2}$$

Among runners with expected mile times in this range, those who are competition averse ($C_i < 0$) will maximize utility by avoiding the competition, whereas those who love competition for its own sake ($C_i > 0$) will enter the elite race. The model therefore predicts that differences between groups in attitudes toward competition will result in large differences in observable behavior among those who are above the QS, but unlikely to win. In fact, in this range of expected mile times, the proportion of group members that chooses not to compete is an estimate of the prevalence of competition aversion. Smaller differences in behavior might be observed among the very fastest runners, as the real possibility of winning a cash prize can offset aversion to the act of competition.

V. EMPIRICAL RESULTS

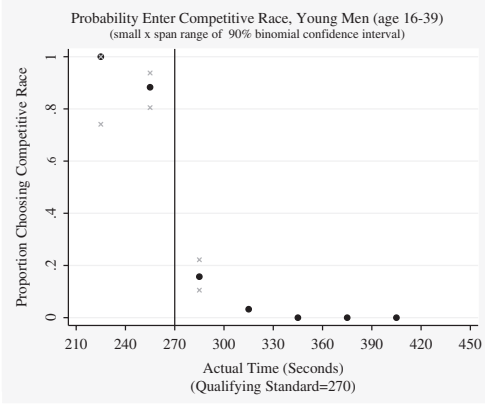
As shown in Table 1, young men sort themselves almost perfectly according to their times relative to the QS, whereas other groups do not. One possible explanation is that perhaps the bulk of younger men are farther from the cutoff time, and are therefore able to more easily assess whether they are above the QS. The more sophisticated analysis described in Figures 1–4 reveals that this was not the case. For example, Figures 2 and 4 show that the peak of both the young women's and young men's distributions are just a bit slower than their respective QSs (270 and 330 seconds, respectively), so that this explanation doesn't seem to be pertinent.[10]

Another possible explanation is that a substantial proportion of young women underestimate their ability. To check whether this seems likely, the means presented in Table 1 were recomputed after dropping runners who had never previously participated in the State Street Mile race. Within the remaining subsample of 147 men and 58 women, each man contributes an average of 2.8 observations, and each woman an average of 2.4 observations. If women's lack of information were responsible for the patterns observed in Table 1, then this more informed subsample would exhibit smaller gender differentials in the tendency to enter the elite races. To the contrary, the more informed runners in this experienced subsample have nearly identical patterns of entry (Table 2). If anything, the younger women in the experienced group are slightly less likely to enter elite races than the typical young woman in the full sample.[11] This

10. In fact, about 35% of both young women's and young men's mile times are within 15 seconds of the QS.

11. The greater tendency of inexperienced women to enter the elite races is not statistically significant—see Table A1, columns 3 and 4 for regressions with control for "Women*first time."

FIGURE 1
Proportion of Runners Choosing to Enter the Competitive Elite Race, Young Men (Aged 16–39)



Note: Small x span range of 90% binomial confidence interval, Qualifying Standard = 270.

FIGURE 2
Distribution of Mile Times, Young Men (Aged 16–39)

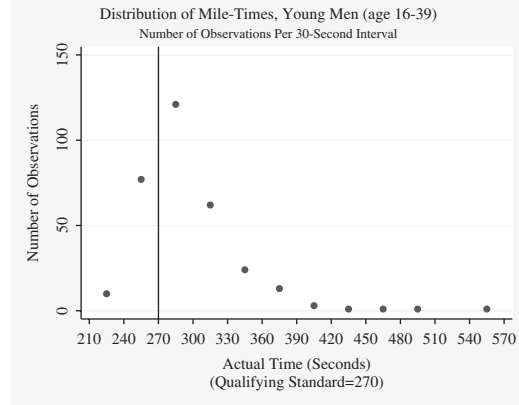
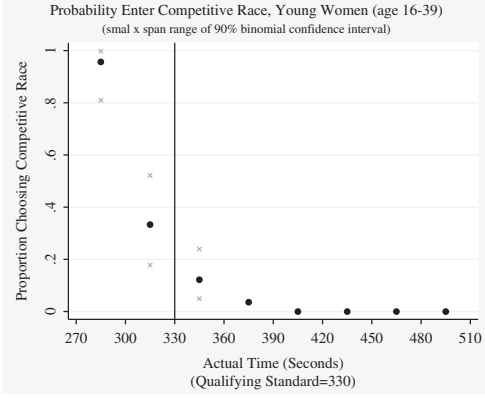
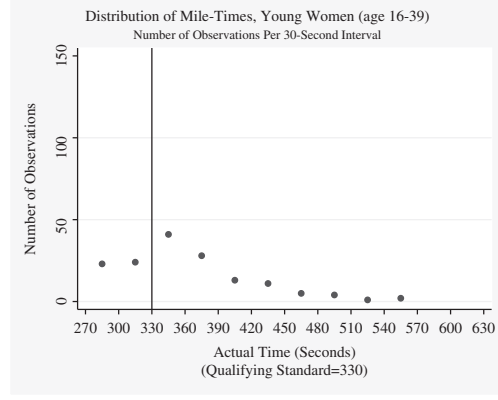


FIGURE 3
Proportion of Runners Choosing to Enter the Competitive Elite Race, Young Women (Aged 16–39)



Note: Small x span range of 90% binomial confidence interval, Qualifying Standard = 330.

FIGURE 4
Distribution of Mile Times, Young Women (Aged 16–39)



suggests that the gender differences in entry to competition are the result of preferences rather than lack of information.

The remainder of the analysis examines patterns of entry across finer intervals of mile time, rather than simply comparing those above and below the QS. Figures 1 and 3 show that entry to competition is very likely among both the fastest young men and the fastest young women.[12] The largest difference in behavior is among those who meet the QS but are unlikely

12. This analysis implicitly assumes that the choice of race does not affect mile time. Previous research has found that random assignment of children to a competitive race tends to improve performance for boys, but not for girls (Gneezy and Rustichini 2004). In a paper-and-pencil task, random assignment to a competition improves performance for both men and women (Niederle and Vesterlund 2007). Therefore, reassigning more of the qualified women to the competitive race would either increase or not affect our assessment of their ability, and the estimates presented here represent a lower bound on women's aversion to competition conditional on ability.

TABLE 2
Proportion Entering Elite Race by Sex, Age Group, and Mile Time Relative to QS
Experienced Subsample of Runners Seen in Previous Years

	Below QS		At or Above QS	
	(1)	(2)	(3)	(4)
	Proportion in Elite Race	Sample Size	Proportion in Elite Race	Sample Size
Men (aged 16–39)	0.10	50	0.88	26
Women (aged 16–39)	0.00	23	0.50	14
Men (aged 40+)	0.00	136	0.43	60
Women (aged 40+)	0.00	20	0.29	35

TABLE 3
Proportion Entering Competitive Race by Sex and Mile Time Relative to QS, Younger

	Men (aged 16–39)			Women (aged 16–39)		
	(1)	(2)	(3)	(4)	(5)	(6)
	Proportion in Competitive Race	Binomial 90% Confidence Interval	Sample Size	Proportion in Competitive Race	Binomial 90% Confidence Interval	Sample Size
Mile time faster than median third place winner's time	1.00	[0.86, 1]	20	1.00	[0.85, 1]	19
Mile time between median third place winner and QS minus 15 s	1.00	[0.89, 1]	27	0.50	[0.25, 0.75]	12
Mile time between QS minus 15 s and QS minus 5 s	0.90	[0.75, 0.97]	29	0.40	[0.22, 0.61]	20
Mile time between QS minus 5 s and QS plus 5 s	0.29	[0.16, 0.45]	31	0.13	[0.02, 0.36]	15
Mile time between QS plus 5 s and QS plus 15 s	0.18	[0.10, 0.29]	55	0.12	[0.02, 0.33]	17
Mile time slower than QS plus 15 s	0.05	[0.02, 0.08]	152	0.04	[0.01, 0.10]	76
All with mile time between median third place winner and QS	0.84	[0.78, 0.93]	67	0.39	[0.24, 0.57]	28

Note: Median third place winner times are 242 s for young men and 292 s for young women.

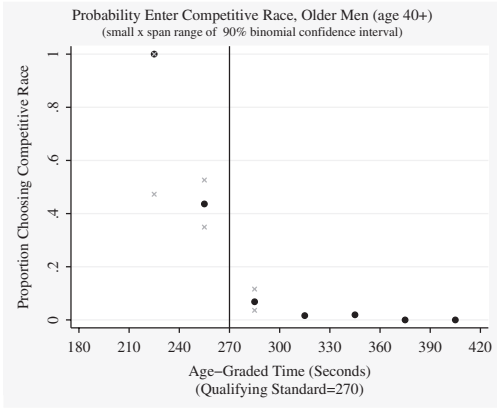
to win. In this range, young men are very likely to enter the competition, but young women are not. This finding suggests that young men expect to enjoy the competition for its own sake, whereas young women prefer not to compete unless they are likely to win. Table 3 slices the time intervals a different way and provides even stronger evidence that participation in the competitive race is nearly universal among young women likely to win, and then drops off very quickly among those comfortably above the QS but unlikely to win.[13] Among runners who have a greater than 50% chance of winning a prize (above the median third place time) every single young woman and young man enters the competitive race.[14] If competition aversion affects behavior only among those unlikely to win, it may not be costly to either women or men.

The comparable analysis for the older runners shows patterns of participation among older men

13. Note that risk aversion is unlikely to play a role among those with times substantially faster than the QS, since for this group the only alternative to the probability of winning a prize is a certainty of not winning a prize. Among well-qualified runners, only those women who are extremely averse to a tiny probability of running far below ability would be affected.

14. One reader wondered about sensitivity to the choice of this cutoff (242 seconds for young men and 292 seconds for young women). In fact, every young man running 256 seconds or faster ($n = 53$) and every young women running 298 seconds or faster ($n = 22$) entered the elite race.

FIGURE 5
Proportion of Runners Choosing to Enter the Competitive Elite Masters Race, Older Men (Aged 40+)



Note: Small x span range of 90% binomial confidence interval, Qualifying Standard = 270.

FIGURE 6
Distribution of Mile Times, Older Men (Aged 40+)

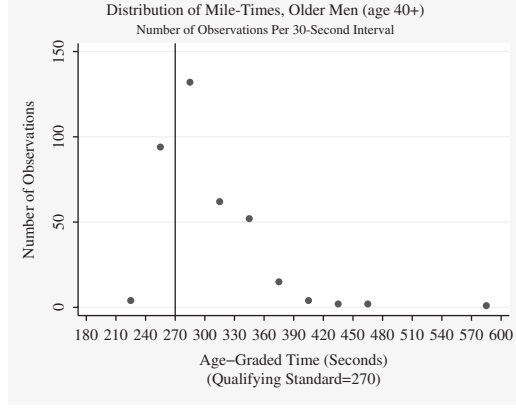
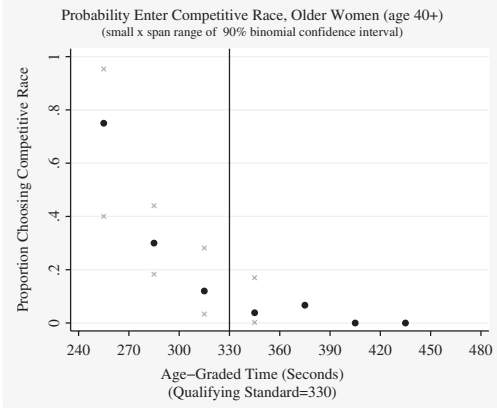
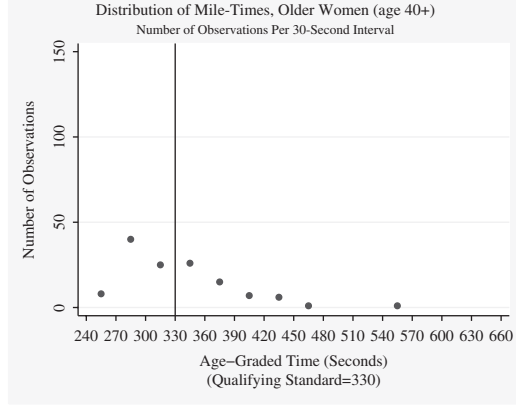


FIGURE 7
Proportion of Runners Choosing to Enter the Competitive Elite Masters Race, Older Women (Aged 40+)



Note: Small x span range of 90% binomial confidence interval, Qualifying Standard = 330.

FIGURE 8
Distribution of Mile Times, Older Women (Aged 40+)



that are very similar to those for younger women (Figures 5–8 and Table 4). Older women show the most competition aversion of all groups. Even many of the fastest (age-adjusted) older women can be seen avoiding the competitive race. Among those who have a greater than 50% chance of winning a prize (above the median third place time), only 38% of older women enter the more competitive race. In fact, 5 of the 18 cash prizes over 6 years went unclaimed because very few women entered the elite masters race for women over the age of 40. It is impossible to determine whether this is an age or cohort effect; the younger women in our sample might remain more likely to engage in competition as they grow older. However, this field experiment provides strong evidence of a preference to avoid competition among women currently aged 40–75.

TABLE 4
Proportion Entering Competitive Race by Sex and Mile Time Relative to QS, Older

	Men (aged 40–81)			Women (aged 40–75)		
	(1)	(2)	(3)	(4)	(5)	(6)
	Proportion in Competitive Race	Binomial 90% Confidence Interval	Sample Size	Proportion in Competitive Race	Binomial 90% Confidence Interval	Sample Size
Mile time faster than median third place winner's time	0.90	[0.74, 0.98]	22	0.38	[0.26, 0.51]	45
Mile time between median third place winner and QS minus 15 sec	0.56	[0.34, 0.76]	18	0.21	[0.06, 0.47]	14
Mile time between QS minus 15 sec and QS minus 5 sec	0.29	[0.17, 0.42]	42	0.18	[0.05, 0.40]	17
Mile time between QS minus 5 sec and QS plus 5 sec	0.17	[0.07, 0.30]	36	0.00	[0.00, 0.28]	9
Mile time between QS plus 5 sec and QS plus 15 sec	0.05	[0.01, 0.13]	58	0.00	[0.00, 0.26]	10
Mile time slower than QS plus 15 sec	0.03	[0.01, 0.05]	192	0.05	[0.01, 0.14]	43
All with mile time between median third place winner and QS	0.33	[0.24, 0.43]	76	0.14	[0.05, 0.30]	28

Note: Median third place winner times are 249 seconds (age adjusted) for men and 297 seconds (age adjusted) for women.

Independent of the differences between groups, one aspect of our results matches the theoretical framework for all four groups. In each case, those who are most likely to win are the most likely to enter the race, with the largest differences in competition-avoidance behaviors observed among those who meet the QS but are unlikely to win.

VI. DISCUSSION

Psychologists have long noted that differences in aspirations, conditional on ability, might contribute to lower vocational and socioeconomic attainment (Marini 1978; Marini and Greenberger 1978). To the extent that competition aversion might play a role in the formation of young women's aspirations, this analysis demonstrates that in a single-sex race those young women who would pay the highest cost for competition-avoiding behavior unanimously respond to incentives by entering the highly competitive race. In this example, the tendency of young women to avoid competition is not too costly because the observed pattern of choices does not reduce expected payoffs very much. Corresponding patterns leading to minimal economic consequences might also be observed in some mixed-gender competitions, but this remains an open question for future research.

Among older women in the sample, competition aversion did exert an economic cost. It is impossible to distinguish whether the difference between older and younger women is an age or cohort effect, but there is ample evidence that socialization plays a role in determining women's tendency to choose competition. Recent field experiments reveal a strong propensity to compete among women in a matrilineal society in India (Gneezy, Leonard, and List 2009), and among girls who attend single sex schools in the U.K. (Booth and Nolen 2009). In the U.S., participation of girls in competitive high school athletic programs grew dramatically during the 1970's (Stevenson 2010).[15] Changes in the degree to which young women are socialized to enjoy competition might account for some of the between-cohort reduction in the gender earnings gap, described by Blau and Kahn (2000) or Weinberger and Kuhn (2010).

Taking a broader view, evidence of competition aversion by young women has implications for the evolution of labor market institutions. For example, labor markets for occupations traditionally held by women may have evolved to

15. This change was driven by a 1972 amendment to the 1964 Civil Rights Act, Title IX. While the amendment addressed sex discrimination in access to all forms of education, its implementation has had a particularly large impact on athletic programs.

include less competitive pay structures. In this case, the distribution of wages within a given occupation might convey less information about the distribution of productive characteristics and more information about the gender of incumbents than was previously understood.

Differences in competition aversion between younger- and older-age groups are also revealed by this study. Runners over the age of 40 are (regardless of gender) only half as likely to select into the competitive race, conditional on meeting the QS, as younger runners. Since previous experimental work (Charness and Villeval 2009) found no difference in competitive attitudes between young and old workers, this contrary finding suggests a promising avenue for further investigation.

Finally, the institutional features of this natural field experiment leave open the possibility that our results on competition aversion are confounded by aversion to other aspects of the elite races. In addition to the possibility to compete for cash prizes, the elite races differ from the less competitive races because the audience is larger and because entry involves making a public declaration of high ability. The reluctance of women to publicly admit high opinions of themselves is well-documented by psychologists (Heatherington et al. 1993). Previous economic research has begun to study the impact of audience on competitive performance (Charness, Rigotti, and Rustichini 2007), but to our knowledge no one has yet tried to disentangle the separate effects of aversion to the act of competition and (possibly distinct) aversion to acts of public competition. In fact, an observationally equivalent interpretation of our results is that some runners do not like to be public losers.[16] This explanation collapses the proposed tradeoff between utility from winning and disutility from competing into a single preference attribute, to make the same prediction as our model: runners who think that they can beat the QS, but do not think they can win (and prefer not to lose in public) will avoid the elite race. Distinguishing the precise components of these complex relationships will require controlled laboratory experiments.

16. The elite races are typically run in front of a larger crowd than the other races. They are run after all the age-group races, the dog mile, and the family fun run are completed. Many finishers of these races stay to watch the elite races, along with other spectators from the general public.

VII. SUMMARY AND CONCLUSION

Competition aversion is believed to contribute to the low representation of women in high-status occupations. Careful laboratory experiments have isolated gender differences in behavior that can only be explained by women's aversion to the act of competition against men (Niederle and Vesterlund 2007). In this article, we provide an example of behavior in the field that seems to reveal competition aversion not only by women in a single-sex environment, but also by older men—the group with strong representation in high-status occupations. Among participants in the State Street Mile, qualified young men are the most likely to enter a competitive elite race with cash prizes, whereas younger women, older men, and (especially) older women show competition-avoiding behavior. However, among the fastest young runners, women unanimously enter the competitive race. The largest gender difference in behavior is among runners unlikely to win. Therefore, in this example, the economic consequences of the strongly revealed gender difference in preferences are quite small, and are virtually nonexistent in young cohorts.

APPENDIX

TABLE A1

	(1)	(2)	(3)	(4)
Specification	**Ordinary Least Squares**	**Probit**	**Ordinary Least Squares**	**Probit**
Women (aged 16–39)	−0.228** (0.097)	−0.294*** (0.108)	−0.270* (0.145)	−0.336** (0.147)
Men (aged 40+)	−0.421*** (0.075)	−0.467*** (0.078)	−0.419*** (0.074)	−0.466*** (0.078)
Women (aged 40+)	−0.583*** (0.073)	−0.585*** (0.065)	−0.613*** (0.108)	−0.607*** (0.084)
Women* first time			0.066 (0.105)	0.071 (0.111)
Men* first time			0.006 (0.068)	0.005 (0.083)
Observations	312	312	312	312
R-squared	0.20		0.21	

Note: Standard errors are clustered to account for the fact that the 312 observations are based on the choices of only 213 individual runners, in case runners observed in more than one year show year-to-year correlation in their choice of race. Columns 2 and 4 report estimated differences in the probability of selection into the more competitive race, based on probit regressions. In columns 3 and 4, new controls are added to distinguish the first observation for each runner ("first time" interacted with gender). Standard errors are given in parentheses.

Dependent variable: indicator for selection into the more competitive elite race; sample: age $\geq$16 and mile time meets the QS; and omitted category: men (aged 16–39).

*Significant at 10%; **significant at 5%; ***significant at 1%.

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