

Study 1

[Screen 1]

We are researchers at the University of Pennsylvania and we are investigating judgment and decision making. You will make judgments and predictions. Please be assured that your responses will be kept completely confidential.

In this survey, you will view information about students and make judgments about their potential to succeed in a graduate program.

The study should take you approximately 10 minutes to complete.

Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without prejudice.

By clicking the forward button, you acknowledge that your participation in the study is voluntary and that you are aware that you may choose to terminate your participation in the study at any time and for any reason without penalty.

Please enter your lab ID number in the space below.

[Screen 2]

In this study, you will have the opportunity to earn additional money by making accurate judgments. Please read all information very carefully.

[Screen 3]

In this task you will play the part of an admissions officer, and help decide which business-school applicants receive scholarship offers from a prestigious MBA program. The applicants you will review will all be admitted by the school, but some will receive scholarship offers and some will not. Scholarship funds are one of the most important ways the school vies for its most preferred students: it will have more success recruiting the students who are awarded scholarship money.

[Screen 4]

It is your job to estimate the performance of applicants to the MBA program. Your decision rests entirely on how successful a student you believe the applicant will be. This is your only consideration. The school judges a student's overall success on four dimensions, giving equal weight to each:

- Academic performance (GPA while in school)
- Respect of fellow students (assessed via a survey at the end of 2 years)
- Prestige of employer upon graduation (as measured in an annual poll of MBA students around the U.S.)
- Job success 2 years after graduation (measured by promotions and raises)

[Screen 5]

In addition to each student's demographics, you will receive a prediction from a statistical model developed by the admissions office. This model is designed to forecast student performance. The model is based on hundreds of past students, using the same categories of demographic data you are receiving. This is a sophisticated model, put together by thoughtful analysts.

The model predicts the applicant's percentile among his/her classmates, according to the school's criteria (detailed on the previous screen – academic performance, respect of fellow students, prestige of employer upon graduation, and job success 2 years after graduation). Scores range from 0.00-99.99. For example, a score of 63.17 indicates that the model predicts the student will be in the 63rd percentile (63%) among his/her classmates. This means that the student is better than 63% of their classmates. The very best students are in the 100th percentile of their class.

[Screen 6]

All of the data shown in this study represents real data from real MBA students.

Based on this data, you will be asked to predict how well the students performed while in graduate school.

You will make performance estimates for 10 applicants. You will base your evaluation on a summary of the applicants' applications. For each applicant you will receive the following information:

Undergraduate Degree

(Engineering, Liberal Arts, Business, or Other)

GMAT – Verbal

(0 to 60)

GMAT – Quantitative

(0 to 60)

Essays – Application essays, as rated by two independent readers

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Interviews – Interviewer rating

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Work Experience

(Years)

Average Salary Since Undergrad

(Dollars)

Average of Parents' Education

(No college experience - Multiple graduate degrees)

[Screen 7]

[control condition – not displayed]

[model condition]

Next, you will go through 15 practice rounds to gain experience with the data. You will see application data from students who have been admitted to the program and graduated.

You will see the statistical model's ratings for each student. Then, you will get feedback indicating how close the model's estimate was to each applicant's true performance.

[human condition]

Next, you will go through 15 practice rounds to gain experience with the data. You will see application data from students who have been admitted to the program and graduated.

You will rate each applicant depending on how successful a student you think he/she was. Then, you will get feedback indicating how close your estimate was to each applicant's true performance.

[model-and-human condition]

Next, you will go through 15 practice rounds to gain experience with the data. You will see application data from students who have been admitted to the program and graduated.

You will rate each applicant depending on how successful a student you think he/she was. You will also see the model's ratings for each student. Then, you will get feedback indicating how close your estimate and the model's estimate were to each applicant's true performance.

[Screens 8a – 22a: 15 randomly selected MBA students]

[control condition – not displayed]

[model condition]

Undergraduate Degree	Business
GMAT - Verbal	44/60
GMAT - Quantitative	48/60
Essay Score	Very Good
Interview Score	Outstanding
Work Experience (years)	3
Average Salary	\$45,900
Average of Parents' Education	Multiple graduate degrees

[human and model-and-human conditions]

Undergraduate Degree	Business
GMAT - Verbal	44/60
GMAT - Quantitative	48/60
Essay Score	Very Good
Interview Score	Outstanding
Work Experience (years)	3
Average Salary	\$45,900
Average of Parents' Education	Multiple graduate degrees

How successful do you think this student was in percentile terms? (Please enter a number 0-100 without a percent sign)

[Screens 8b – 22b: feedback on forecasts for 15 randomly selected MBA students]

[control condition – not displayed]

[model condition]

Model's Prediction: 100

Student's Actual Percentile: 83

[human condition]

Your Prediction: [participant's prediction here]

Student's Actual Percentile: 83

[model-and-human condition]

Your Prediction: [participant's prediction here]

Model's Prediction: 100

Student's Actual Percentile: 83

[Screen 23]

Next, you will make your 10 official estimates.

You will receive a \$1 bonus for each of your 10 estimates that is within 5 percentiles of a student's true percentile. Therefore, you can earn an extra \$0 to \$10 depending on your performance.

Please type the underlined sentences in the paragraph above this question in the text box.

[Screen 24]

For each applicant you will receive the following information:

Undergraduate Degree

(Engineering, Liberal Arts, Business, or Other)

GMAT – Verbal

(0 to 60)

GMAT – Quantitative

(0 to 60)

Essays – Application essays, as rated by two independent readers

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Interviews – Interviewer rating

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Work Experience

(Years)

Average Salary Since Undergrad

(Dollars)

Average of Parents' Education

(No college experience - Multiple graduate degrees)

[Screen25]

For all 10 official estimates, you can choose to have either your estimates or the statistical model's estimates determine your bonuses. In other words, you can choose to be paid \$1 every time your estimate is within 5 percentile of a student's true performance, or \$1 every time the statistical model's estimate is within 5 percentile of a student's true performance for all 10 estimates.

Would you like your estimates or the model's estimates to determine your bonuses for all 10 rounds?

Use only the statistical model's estimates
to determine my bonuses for all 10 rounds.



Use only my estimates
to determine my bonuses for all 10 rounds.



[Screens 26a – 35a: 10 randomly selected MBA students]

Undergraduate Degree	Business
GMAT - Verbal	44/60
GMAT - Quantitative	48/60
Essay Score	Very Good
Interview Score	Outstanding
Work Experience (years)	3
Average Salary	\$45,900
Average of Parents' Education	Multiple graduate degrees

How successful do you think this student was in percentile terms? (Please enter a number 0-100 without a percent sign)

[Screens 26b – 35b: feedback on forecasts for 10 randomly selected MBA students]

Your Prediction: [participant's prediction here]

Model's Prediction:100

Do you think that your estimate or the Model's estimate is closer to the last student's true percentile?

My estimate



The model's estimate



[Screens 36 and 37: randomized order]

[36]

What percent of the time do you think the model's estimates are within 5 percentiles of a student's true score? (Please enter a number 0-100 without a percent sign)

[37]

What percent of the time do you think your estimates are within 5 percentiles of a student's true score? (Please enter a number 0-100 without a percent sign)

[Screens 38 and 39: randomized order]

[38]

How much confidence do you have in the statistical model's estimates?

None



Little



Some



A Fair Amount



A Lot



[39]

How much confidence do you have in your estimates?

None



Little



Some



A Fair Amount



A Lot



[Screen 40]

[participants who selected the model's forecasts]

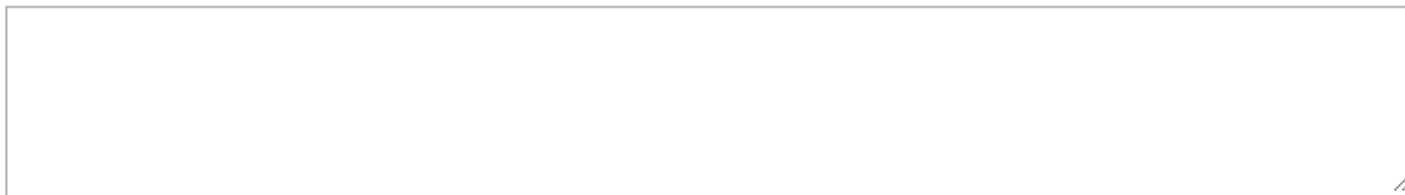
Why did you choose to have your bonus be determined by the statistical model's estimates instead of your estimates?

[participants who selected their own forecasts]

Why did you choose to have your bonus be determined by your estimates instead of the statistical model's estimates?

[Screen 41]

What are your thoughts and feelings about the statistical model?

A large, empty rectangular box with a thin black border, intended for the participant to write their thoughts and feelings about the statistical model. There is a small double-slash icon in the bottom right corner of the box.

[Screen 42]

Please raise your hand to receive your bonus pay. Do not advance to the next page until a lab administrator has written down your bonus.

Your total bonus is: \$ [participant's bonus here]

[Screen 43]

What is your age?

18 ▼

What is your gender?

- ☐ Male
- ☐ Female

What is the highest level of education you have completed?

- ☐ Less than High School
- ☐ High School / GED
- ☐ Some College
- ☐ 2-year College Degree
- ☐ 4-year College Degree
- ☐ Masters Degree
- ☐ Professional Degree (JD, MD)
- ☐ Doctoral Degree

[Screen 44]

Thanks for participating!

Please click ">>" to complete this survey.

Study 2

[Screen 1]

We are researchers at the University of Pennsylvania and we are investigating judgment and decision making. You will make judgments and predictions. Please be assured that your responses will be kept completely confidential.

In this survey, you will view information about students and make judgments about their potential to succeed in a graduate program.

The study should take you approximately 10 minutes to complete.

Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without prejudice.

By clicking the forward button, you acknowledge that your participation in the study is voluntary and that you are aware that you may choose to terminate your participation in the study at any time and for any reason without penalty.

Please enter your lab ID number in the space below.

[Screen 2]

In this study, you will have the opportunity to earn additional money by making accurate judgments. Please read all information very carefully.

[Screen 3]

In this task you will play the part of an admissions officer, and help decide which business-school applicants receive scholarship offers from a prestigious MBA program. The applicants you will review will all be admitted by the school, but some will receive scholarship offers and some will not. Scholarship funds are one of the most important ways the school vies for its most preferred students: it will have more success recruiting the students who are awarded scholarship money.

[Screen 4]

It is your job to estimate the performance of applicants to the MBA program. Your decision rests entirely on how successful a student you believe the applicant will be. This is your only consideration. The school judges a student's overall success on four dimensions, giving equal weight to each:

- Academic performance (GPA while in school)
- Respect of fellow students (assessed via a survey at the end of 2 years)
- Prestige of employer upon graduation (as measured in an annual poll of MBA students around the U.S.)
- Job success 2 years after graduation (measured by promotions and raises)

[Screen 5]

In addition to each student's demographics, you will receive a prediction from a statistical model developed by the admissions office. This model is designed to forecast student performance. The model is based on hundreds of past students, using the same categories of demographic data you are receiving. This is a sophisticated model, put together by thoughtful analysts.

The model predicts the applicant's percentile among his/her classmates, according to the school's criteria (detailed on the previous screen – academic performance, respect of fellow students, prestige of employer upon graduation, and job success 2 years after graduation). Scores range from 0.00-99.99. For example, a score of 63.17 indicates that the model predicts the student will be in the 63rd percentile (63%) among his/her classmates. This means that the student is better than 63% of their classmates. The very best students are in the 100th percentile of their class.

[Screen 6]

All of the data shown in this study represents real data from real MBA students.

Based on this data, you will be asked to predict how well the students performed while in graduate school.

You will make performance estimates for 10 applicants. You will base your evaluation on a summary of the applicants' applications. For each applicant you will receive the following information:

Undergraduate Degree

(Engineering, Liberal Arts, Business, or Other)

GMAT – Verbal

(0 to 60)

GMAT – Quantitative

(0 to 60)

Essays – Application essays, as rated by two independent readers

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Interviews – Interviewer rating

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Work Experience

(Years)

Average Salary Since Undergrad

(Dollars)

Average of Parents' Education

(No college experience - Multiple graduate degrees)

[Screen 7]

[5-pct condition]

Next, you will go through 15 practice rounds to gain experience with the data. You will see application data from students who have been admitted to the program and graduated.

You will rate each applicant depending on how successful a student you think he/she was. You will also see the model's ratings for each student. Then, you will get feedback indicating how close your estimate and the model's estimate were to each applicant's true performance.

After you complete the 15 practice rounds, you will go through 10 official rounds in which you will be compensated for your performance. You will be given a choice of having your estimates or the model's estimates count as your official estimates. During the official rounds, you will receive an additional bonus of \$1 whenever an estimate is within 5 percentiles of a student's true percentile. You can earn \$0 to \$10 depending on your performance.

Please type the underlined sentences in the paragraph above this question in the text box.

[20-pct condition]

Next, you will go through 15 practice rounds to gain experience with the data. You will see application data from students who have been admitted to the program and graduated.

You will rate each applicant depending on how successful a student you think he/she was. You will also see the model's ratings for each student. Then, you will get feedback indicating how close your estimate and the model's estimate were to each applicant's true performance.

After you complete the 15 practice rounds, you will go through 10 official rounds in which you will be compensated for your performance. You will be given a choice of having your estimates or the model's estimates count as your official estimates. During the official rounds, you will receive an additional bonus of \$1 whenever an estimate is within 20 percentiles of a student's true percentile. You can earn \$0 to \$10 depending on your performance.

Please type the underlined sentences in the paragraph above this question in the text box.

[AAE condition]

Next, you will go through 15 practice rounds to gain experience with the data. You will see application data from students who have been admitted to the program and graduated.

You will rate each applicant depending on how successful a student you think he/she was. You will also see the model's ratings for each student. Then, you will get feedback indicating how close your estimate and the model's estimate were to each applicant's true performance.

After you complete the 15 practice rounds, you will go through 10 official rounds in which you will be compensated for your performance. You will be given a choice of having your estimates or the model's estimates count as your official estimates. During the official rounds, you will receive additional bonus money based on the average accuracy of your estimates. You can earn \$0 to \$10 depending on your performance.

The bonus will be determined as follows:

- \$10 - Within 4 percentiles of students' actual percentiles on average**
- \$9 - Within 8 percentiles of students' actual percentiles on average**
- \$8 - Within 12 percentiles of students' actual percentiles on average**
- \$7 - Within 16 percentiles of students' actual percentiles on average**
- \$6 - Within 20 percentiles of students' actual percentiles on average**
- \$5 - Within 24 percentiles of students' actual percentiles on average**
- \$4 - Within 28 percentiles of students' actual percentiles on average**
- \$3 - Within 32 percentiles of students' actual percentiles on average**
- \$2 - Within 36 percentiles of students' actual percentiles on average**
- \$1 - Within 40 percentiles of students' actual percentiles on average**

Please type the underlined sentences in the paragraph above this question in the text box.

[Screens 8a – 22a: 15 randomly selected MBA students]

Undergraduate Degree	Business
GMAT - Verbal	44/60
GMAT - Quantitative	48/60
Essay Score	Very Good
Interview Score	Outstanding
Work Experience (years)	3
Average Salary	\$45,900
Average of Parents' Education	Multiple graduate degrees

How successful do you think this student was in percentile terms? (Please enter a number 0-100 without a percent sign)

[Screens 8b – 22b: feedback on forecasts for 15 randomly selected MBA students]

Your Prediction: [participant's prediction here]

Model's Prediction: 100

Student's Actual Percentile: 83

[Screen 23]

Next, you will go through 10 official estimate rounds.

[Screen 24]

For each applicant you will receive the following information:

Undergraduate Degree

(Engineering, Liberal Arts, Business, or Other)

GMAT – Verbal

(0 to 60)

GMAT – Quantitative

(0 to 60)

Essays – Application essays, as rated by two independent readers

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Interviews – Interviewer rating

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Work Experience

(Years)

Average Salary Since Undergrad

(Dollars)

Average of Parents' Education

(No college experience - Multiple graduate degrees)

[Screen 25]

[5-pct condition]

For all 10 official estimates, you can choose to have either your estimates or the statistical model's estimates determine your bonuses. In other words, you can choose to be paid \$1 every time your estimate is within 5 percentile of a student's true performance, or \$1 every time the statistical model's estimate is within 5 percentile of a student's true performance for all 10 estimates.

Would you like your estimates or the model's estimates to determine your bonuses for all 10 rounds?

Use only the statistical model's estimates
to determine my bonuses for all 10 rounds.



Use only my estimates
to determine my bonuses for all 10 rounds.



[20-pct condition]

For all 10 official estimates, you can choose to have either your estimates or the statistical model's estimates determine your bonuses. In other words, you can choose to be paid \$1 every time your estimate is within 20 percentiles of a student's true performance, or \$1 every time the statistical model's estimate is within 20 percentiles of a student's true performance for all 10 estimates.

Would you like your estimates or the model's estimates to determine your bonuses for all 10 rounds?

Use only the statistical model's estimates
to determine my bonuses for all 10 rounds.



Use only my estimates
to determine my bonuses for all 10 rounds.



[AAE condition]

For all 10 official estimates, you can choose to have either your estimates or the statistical model's estimates determine your bonuses. In other words, you can choose to be paid based on your average accuracy, or you can choose to be paid based on the model's average accuracy.

Your bonus will be determined as follows:

- \$10 - Within 4 percentiles of a student's actual percentile on average
- \$9 - Within 8 percentiles of a student's actual percentile on average
- \$8 - Within 12 percentiles of a student's actual percentile on average
- \$7 - Within 16 percentiles of a student's actual percentile on average
- \$6 - Within 20 percentiles of a student's actual percentile on average
- \$5 - Within 24 percentiles of a student's actual percentile on average
- \$4 - Within 28 percentiles of a student's actual percentile on average
- \$3 - Within 32 percentiles of a student's actual percentile on average
- \$2 - Within 36 percentiles of a student's actual percentile on average
- \$1 - Within 40 percentiles of a student's actual percentile on average

Would you like your estimates or the model's estimates to determine your bonuses for all 10 rounds?

Use only the statistical model's estimates
to determine my bonuses for all 10 rounds.



Use only my estimates
to determine my bonuses for all 10 rounds.



[Screens 26 and 27: order randomized]

[26]

How much bonus money do you think you would earn if your own estimates determined your bonus? (Please enter a number between 0-10 without a dollar sign)

[27]

How much bonus money do you think you would earn if the model's estimates determined your bonus? (Please enter a number between 0-10 without a dollar sign)

[Screens 28a – 37a: 10 randomly selected MBA students]

Undergraduate Degree	Business
GMAT - Verbal	44/60
GMAT - Quantitative	48/60
Essay Score	Very Good
Interview Score	Outstanding
Work Experience (years)	3
Average Salary	\$45,900
Average of Parents' Education	Multiple graduate degrees

How successful do you think this student was in percentile terms? (Please enter a number 0-100 without a percent sign)

[Screens 28b – 37b: feedback on forecasts for 10 randomly selected MBA students]

Your Prediction: [participant's prediction here]

Model's Prediction: 100

Do you think that your estimate or the Model's estimate is closer to the last student's true percentile?

My estimate



The model's estimate



[Screens 38 and 39: randomized order]

[38]

On average, how many percentiles do you think the model's estimates are away from students' actual percentiles? (Please enter a number between 0-100 without a percent sign)

[39]

On average, how many percentiles do you think your estimates are away from students' actual percentiles? (Please enter a number between 0-100 without a percent sign)

[Screens 40 and 41: randomized order]

[40]

How much confidence do you have in the statistical model's estimates?

None



Little



Some



A Fair Amount



A Lot



[41]

How much confidence do you have in your estimates?

None

Little

Some

A Fair Amount

A Lot

☐

☐

☐

☐

☐

[Screen 42]

How well did the statistical model perform in comparison to your expectations?

Much Worse

Worse

About the Same

Better

Much Better

☐

☐

☐

☐

☐

[Screen 43]

Please indicate how you and the model compare on the following attributes:

	Model is much better	Model is better	Equal	I am better	I am much better
Detecting exceptions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding underappreciated candidates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoiding obvious mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning from mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appropriately weighing a candidate's qualities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consistently weighing information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treating each student individually	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Getting better with practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Screen 44]

[participants who selected the model's forecasts]

Why did you choose to have your bonus be determined by the statistical model's estimates instead of your estimates?

A large, empty rectangular text box with a thin black border, intended for participants to write their responses.

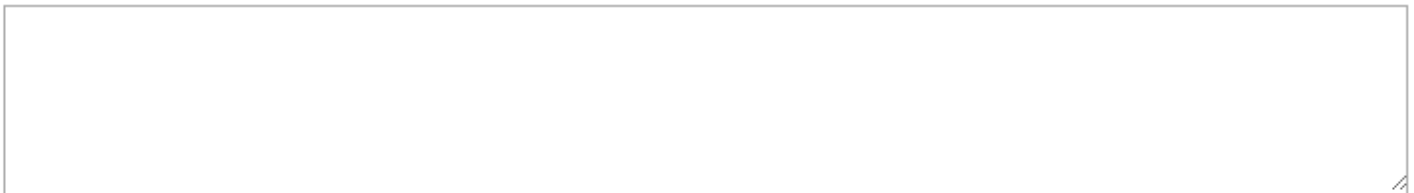
[participants who selected their own forecasts]

Why did you choose to have your bonus be determined by your estimates instead of the statistical model's estimates?

A large, empty rectangular text box with a thin black border, intended for participants to write their responses.

[Screen 45]

What are your thoughts and feelings about the statistical model?

A large, empty rectangular text box with a thin black border, intended for participants to write their responses.

[Screen 46]

Please raise your hand to receive your bonus pay. Do not advance to the next page until a lab administrator has written down your bonus.

Your total bonus is: \$ [participant's bonus here]

[Screen 47]

What is your age?

18 ▼

What is your gender?

- ☐ Male
- ☐ Female

What is the highest level of education you have completed?

- ☐ Less than High School
- ☐ High School / GED
- ☐ Some College
- ☐ 2-year College Degree
- ☐ 4-year College Degree
- ☐ Masters Degree
- ☐ Professional Degree (JD, MD)
- ☐ Doctoral Degree

[Screen 48]

Thanks for participating!

Please click ">>" to complete this survey.

Study 3a

[Screen 1]

We are researchers at the University of Pennsylvania and we are investigating judgment and decision making. You will make judgments and predictions in the following study. Please be assured that your responses will be kept completely confidential.

In this survey, you will view information about states and make judgments about the amount of air traffic that departed from each state in 2011.

The study should take you approximately 10 minutes to complete.

Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without prejudice.

By clicking the forward button, you acknowledge that your participation in the study is voluntary and that you are aware that you may choose to terminate your participation in the study at any time and for any reason without penalty.

Please enter your Mturk ID in the space below.

[Screen 2: reading check]

Mturk Experience

Your experiences on Mturk will be important for the following survey. Please indicate how often you participate in Mturk surveys in the question included below. In order to demonstrate that you have read these instructions, please select other and type the word dolphin as your answer to the question below. If you fail to do so you will not be able to take the survey. Please answer the question as honestly as you can.

Thank you for your participation.

How often do you participate in Mturk surveys?

- ☐ Never
- ☐ Less than once a month
- ☐ 1-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☐ 4-5 times a week
- ☐ More than 5 times a week
- ☐ Other

[Screen 3: for participants who failed the reading check]

Your answer to the previous question indicates that you did not read instructions carefully enough. You will not be able to participate in this survey.

[Screen 4]

In this study, you will have the opportunity to earn additional money by making accurate judgments.

Please read all information very carefully.

[Screen 5]

In this task you will estimate the rank of 1 U.S. state in terms of the number of airline passengers who departed from that state in 2011.

The state with the largest number of departing passengers is ranked 1st and the state with the smallest number of departing passengers is ranked 50th.

[Screen 6]

All of the data shown in this study represent real data from official government records.

You will make official estimates for 1 state. You will base your evaluation on a list of information about the state. Not all of the provided pieces of information are necessarily important indicators of passenger departures. You will receive the following information:

Number of Major Airports

The number of major airports in the state as determined by the Bureau of Transportation.
All states have smaller airports that this number does not account for

Census Population Rank - 2010

The state's rank in terms of population in 2010 from the U.S. Census Bureau
(1 = most populated U.S. state; 50 = least populated U.S. state)

Number of Counties Rank

The state's rank in terms of its number of counties
(1 = U.S. state with the most number of counties; 50 = U.S. state with the least number of counties)

Median Household Income Rank - 2008

The state's rank in terms of median household income in 2008 from the U.S. Census Bureau
(1 = U.S. state with the highest median income; 50 = U.S. state with the lowest median income)

Domestic Travel Expenditure Rank - 2009

The state's rank in terms of money spent by U.S. citizens traveling to the state in 2009 from the U.S. travel association
(1 = U.S. state with the most incoming expenditures; 50 = U.S. state with the least incoming expenditures)

[Screen 7]

In addition to information about the state, you will receive a prediction from a statistical model developed by transportation analysts. This model is designed to forecast each state's rank in terms of the number of passengers departing from that state in 2011. The model is based on data from 2006 through 2010, and it uses the same information that you will receive. The model does not have any additional information that you will not receive. This is a sophisticated model, put together by thoughtful analysts.

The statistical model predicts each state's rank in terms of the number of passengers that took off from that state in 2011. Scores range from 1 to 50. The model assigns lower ranks to states with more departing passengers.

[Screen 8]

[control condition – not displayed]

[model condition]

Next, you will go through 10 practice estimates to gain experience with the data.

You will see the statistical model's estimated rank of each state. Then, you will receive feedback indicating how close the model's estimated rank was to each state's true rank.

[human condition]

Next, you will go through 10 practice estimates to gain experience with the data.

You will estimate the rank of each state in terms of how many airline passengers departed from that state in 2011. Then, you will receive feedback indicating how close your estimated rank was to each state's true rank.

[model-and-human condition]

Next, you will go through 10 practice estimates to gain experience with the data.

You will estimate the rank of each state in terms of how many airline passengers departed from that state in 2011. You will also see the statistical model's estimated rank of each state. Then, you will receive feedback indicating how close your estimated rank and the model's estimated rank were to each state's true rank.

[Screen 9]

[control condition – not displayed]

[model, human, and model-and-human conditions]

After you complete the 10 practice estimates, you will go through 1 official estimate in which you will be compensated for your performance. The U.S. states you see in the practice round will be different from the one you see in the official round.

Before the official round, you will be given a choice of having your estimated rank or the model's estimated rank count as the official estimate.

During the official round, you will receive additional bonus money based on the accuracy of the official estimate. You can earn \$0 to \$1 depending on how close the official estimate is to the actual rank.

The bonus will be determined as follows:

- \$1.00 - perfectly predict state's actual rank
- \$0.85 - within 1 rank of state's actual rank
- \$0.70 - within 2 ranks of state's actual rank
- \$0.55 - within 3 ranks of state's actual rank
- \$0.40 - within 4 ranks of state's actual rank
- \$0.25 - within 5 ranks of state's actual rank
- \$0.10 - within 6 ranks of state's actual rank

Please type the underlined sentences in the paragraph above this question in the text box.

[Screens 10a – 19a: 10 randomly selected states]

[control condition – not displayed]

[model condition]

Number of Major Airports	0
Census Population Rank - 2010	23
Number of Counties Rank	22
Median Household Income Rank - 2008	46
Domestic Travel Expenditure Rank - 2009	29

[human and model-and-human conditions]

Number of Major Airports	0
Census Population Rank - 2010	23
Number of Counties Rank	22
Median Household Income Rank - 2008	46
Domestic Travel Expenditure Rank - 2009	29

What do you think this state's rank is in terms of departing airline passengers in 2011? (Please enter a number 1-50)

[Screens 10b – 19b: feedback on forecasts for 10 randomly selected states]

[control condition – not displayed]

[model condition]

Model's Prediction:34

State's Actual Rank: 34

[human condition]

Your Prediction: [participant's prediction here]

State's Actual Rank: 34

[model-and-human condition]

Your Prediction: [participant's prediction here]

Model's Prediction:34

State's Actual Rank: 34

[Screen 20]

[model, human, and model-and-human conditions – not displayed]

[control condition]

Next, you will go through 1 official estimate.

You will be given a choice of having your estimated rank or the model's estimated rank count as the official estimate.

During the official round, you will receive additional bonus money based on the accuracy of the official estimate. You can earn \$0 to \$1 depending on how close the official estimate is to the actual rank.

The bonus will be determined as follows:

- \$1.00 - perfectly predict state's actual rank
- \$0.85 - within 1 rank of state's actual rank
- \$0.70 - within 2 ranks of state's actual rank
- \$0.55 - within 3 ranks of state's actual rank
- \$0.40 - within 4 ranks of state's actual rank
- \$0.25 - within 5 ranks of state's actual rank
- \$0.10 - within 6 ranks of state's actual rank

Please type the underlined sentences in the paragraph above this question in the text box.

[Screen 21]

[control condition]

You will receive the following information:

Number of Major Airports

The number of major airports in the state as determined by the Bureau of Transportation.
All states have smaller airports that this number does not account for

Census Population Rank - 2010

The state's rank in terms of population in 2010 from the U.S. Census Bureau
(1 = most populated U.S. state; 50 = least populated U.S. state)

Number of Counties Rank

The state's rank in terms of its number of counties
(1 = U.S. state with the most number of counties; 50 = U.S. state with the least number of counties)

Median Household Income Rank - 2008

The state's rank in terms of median household income in 2008 from the U.S. Census Bureau
(1 = U.S. state with the highest median income; 50 = U.S. state with the lowest median income)

Domestic Travel Expenditure Rank - 2009

The state's rank in terms of money spent by U.S. citizens traveling to the state in 2009 from the U.S. travel association
(1 = U.S. state with the most incoming expenditures; 50 = U.S. state with the least incoming expenditures)

[model, human, and model-and-human conditions]

Next, you will go through 1 official estimate.

You will receive the same information that you received in the training rounds:

Number of Major Airports

The number of major airports in the state as determined by the Bureau of Transportation.
All states have smaller airports that this number does not account for

Census Population Rank - 2010

The state's rank in terms of population in 2010 from the U.S. Census Bureau
(1 = most populated U.S. state; 50 = least populated U.S. state)

Number of Counties Rank

The state's rank in terms of its number of counties
(1 = U.S. state with the most number of counties; 50 = U.S. state with the least number of counties)

Median Household Income Rank - 2008

The state's rank in terms of median household income in 2008 from the U.S. Census Bureau
(1 = U.S. state with the highest median income; 50 = U.S. state with the lowest median income)

Domestic Travel Expenditure Rank - 2009

The state's rank in terms of money spent by U.S. citizens traveling to the state in 2009 from the U.S. travel association
(1 = U.S. state with the most incoming expenditures; 50 = U.S. state with the least incoming expenditures)

[Screen 22]

For the official estimate, you can choose to have either your estimated rank or the statistical model's estimated rank determine your bonus. In other words, you can choose to be paid based on your accuracy, or you can choose to be paid based on the model's accuracy. You will make an estimate no matter which option you choose.

The bonus will be determined as follows:

- \$1.00 - perfectly predict state's actual rank
- \$0.85 - within 1 rank of state's actual rank
- \$0.70 - within 2 ranks of state's actual rank
- \$0.55 - within 3 ranks of state's actual rank
- \$0.40 - within 4 ranks of state's actual rank
- \$0.25 - within 5 ranks of state's actual rank
- \$0.10 - within 6 ranks of state's actual rank

Would you like your estimated rank or the model's estimated rank to determine your bonus?

Use only the statistical model's estimated rank
to determine my bonus.



Use only my estimated rank
to determine my bonus.



[Screen 23a: 1 randomly selected state]

Number of Major Airports	0
Census Population Rank - 2010	23
Number of Counties Rank	22
Median Household Income Rank - 2008	46
Domestic Travel Expenditure Rank - 2009	29

What do you think this state's rank is in terms of departing airline passengers in 2011? (Please enter a number 1-50)

[Screens 23b: feedback on forecast for 1 randomly selected state]

Your Prediction: [participant's prediction here]

Model's Prediction:34

Do you think that your estimate or the Model's estimate is closer to the last state's true rank?

My estimate



The model's estimate



[Screens 24 and 25: randomized order]

[24]

On average, how many ranks do you think the model's estimates are away from states' actual ranks?

An answer of zero would mean that you think the model perfectly estimates all of the ranks. An answer of one would mean that you think the model's estimates are off by 1 rank, on average.

You answer can range from 0-50.

[25]

On average, how many ranks do you think your estimates are away from states' actual ranks?

An answer of zero would mean that you think you perfectly estimate all of the ranks. An answer of one would mean that you think your estimates are off by 1 rank, on average.

You answer can range from 0-50.

[Screens 26 and 27: randomized order]

[26]

How much confidence do you have in the statistical model's estimates?

None	Little	Some	A Fair Amount	A Lot
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[27]

How much confidence do you have in your estimates?

None	Little	Some	A Fair Amount	A Lot
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Screen 28]

How likely is it that the model predicts state's ranks almost perfectly?

Certainly Not True	Very Unlikely	Unlikely	Somewhat Unlikely	Undecided	Somewhat Likely	Likely	Very Likely	Certainly True
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Screen 29]

How well did the statistical model perform in comparison to your expectations?

Much Worse	Worse	About the Same	Better	Much Better
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Screen 30]

Please indicate how you and the model compare on the following attributes:

	Model is much better	Model is better	Equal	I am better	I am much better
Detecting exceptions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoiding obvious mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning from mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appropriately weighing a state's attributes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consistently weighing information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treating each state individually	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Getting better with practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Screen 31]

[participants who selected the model’s forecasts]

Why did you choose to have your bonus determined by the statistical model's estimate instead of your estimate?

[participants who selected their own forecasts]

Why did you choose to have your bonus determined by your estimate instead of the statistical model's estimate?

[Screen 32]

What are your thoughts and feelings about the statistical model?

[Screen 33]

You will learn and receive your bonus after all HITs have been completed.

If you earned a bonus of \$0, we will give you a \$0.01 bonus.

[Screen 34]

What is your age?

18 ▼

What is your gender?

- ☐ Male
- ☐ Female

What is the highest level of education you have completed?

- ☐ Less than High School
- ☐ High School / GED
- ☐ Some College
- ☐ 2-year College Degree
- ☐ 4-year College Degree
- ☐ Masters Degree
- ☐ Professional Degree (JD, MD)
- ☐ Doctoral Degree

[Screen 35]

Thanks for participating!

Please do not discuss any of the content in this survey with other people, including the choices that you made. Discussing any content from our survey will invalidate the results.

Please copy and paste the following Survey Code to Mechanical Turk to receive credit:

[Survey code here]

You will receive your bonus after all HITs have been completed.

Please click ">>" to complete this survey and return to Mechanical Turk. (It may take a few moments to save your responses).

Study 3b

[Screen 1]

We are researchers at the University of Pennsylvania and we are investigating judgment and decision making. You will make judgments and predictions in the following study. Please be assured that your responses will be kept completely confidential.

In this survey, you will view information about states and make judgments about the amount of air traffic that departed from each state in 2011.

The study should take you approximately 10 minutes to complete.

Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without prejudice.

By clicking the forward button, you acknowledge that your participation in the study is voluntary and that you are aware that you may choose to terminate your participation in the study at any time and for any reason without penalty.

Please enter your Mturk ID in the space below.

[Screen 2: reading check]

Mturk Experience

Your experiences on Mturk will be important for the following survey. Please indicate how often you participate in Mturk surveys in the question included below. In order to demonstrate that you have read these instructions, please select other and type the word dolphin as your answer to the question below. If you fail to do so you will not be able to take the survey. Please answer the question as honestly as you can.

Thank you for your participation.

How often do you participate in Mturk surveys?

- ☐ Never
- ☐ Less than once a month
- ☐ 1-3 times a month
- ☐ Once a week
- ☐ 2-3 times a week
- ☐ 4-5 times a week
- ☐ More than 5 times a week
- ☐ Other

[Screen 3: for participants who failed the reading check]

Your answer to the previous question indicates that you did not read instructions carefully enough. You will not be able to participate in this survey.

[Screen 4]

In this study, you will have the opportunity to earn additional money by making accurate judgments.

Please read all information very carefully.

[Screen 5]

In this task you will estimate the rank of 1 U.S. state in terms of the number of airline passengers who departed from that state in 2011.

The state with the largest number of departing passengers is ranked 1st and the state with the smallest number of departing passengers is ranked 50th.

[Screen 6]

All of the data shown in this study represent real data from official government records.

You will make official estimates for 1 state. You will base your evaluation on a list of information about the state. Not all of the provided pieces of information are necessarily important indicators of passenger departures. You will receive the following information:

Number of Major Airports

The number of major airports in the state as determined by the Bureau of Transportation.
All states have smaller airports that this number does not account for

Census Population Rank - 2010

The state's rank in terms of population in 2010 from the U.S. Census Bureau
(1 = most populated U.S. state; 50 = least populated U.S. state)

Number of Counties Rank

The state's rank in terms of its number of counties
(1 = U.S. state with the most number of counties; 50 = U.S. state with the least number of counties)

Median Household Income Rank - 2008

The state's rank in terms of median household income in 2008 from the U.S. Census Bureau
(1 = U.S. state with the highest median income; 50 = U.S. state with the lowest median income)

Domestic Travel Expenditure Rank - 2009

The state's rank in terms of money spent by U.S. citizens traveling to the state in 2009 from the U.S. travel association
(1 = U.S. state with the most incoming expenditures; 50 = U.S. state with the least incoming expenditures)

[Screen 7]

In addition to information about the state, you will receive a prediction from a statistical model developed by experienced transportation analysts. This model is designed to forecast each state's rank in terms of the number of passengers departing from that state in 2011. The model is based on data from 2006 through 2010, and it uses the same information that you will receive. The model does not have any additional information that you will not receive. This is a sophisticated model, put together by thoughtful analysts.

The statistical model predicts each state's rank in terms of the number of passengers that took off from that state in 2011. Scores range from 1 to 50. The model assigns lower ranks to states with more departing passengers.

[Screen 8]

[control condition – not displayed]

[model condition]

Next, you will go through 10 practice estimates to gain experience with the data.

You will see the statistical model's estimated rank of each state. Then, you will receive feedback indicating how close the model's estimated rank was to each state's true rank.

[human condition]

Next, you will go through 10 practice estimates to gain experience with the data.

You will estimate the rank of each state in terms of how many airline passengers departed from that state in 2011. Then, you will receive feedback indicating how close your estimated rank was to each state's true rank.

[model-and-human condition]

Next, you will go through 10 practice estimates to gain experience with the data.

You will estimate the rank of each state in terms of how many airline passengers departed from that state in 2011. You will also see the statistical model's estimated rank of each state. Then, you will receive feedback indicating how close your estimated rank and the model's estimated rank were to each state's true rank.

[Screen 9]

[control condition – not displayed]

[model, human, and model-and-human conditions]

After you complete the 10 practice estimates, you will go through 1 official estimate in which you will be compensated for your performance. The U.S. states you see in the practice round will be different from the one you see in the official round.

Before the official round, you will be given a choice of having your estimated rank or the model's estimated rank count as the official estimate.

During the official round, you will receive additional bonus money based on the accuracy of the official estimate. You can earn \$0 to \$1 depending on how close the official estimate is to the actual rank.

The bonus will be determined as follows:

- \$1.00 - perfectly predict state's actual rank
- \$0.85 - within 1 rank of state's actual rank
- \$0.70 - within 2 ranks of state's actual rank
- \$0.55 - within 3 ranks of state's actual rank
- \$0.40 - within 4 ranks of state's actual rank
- \$0.25 - within 5 ranks of state's actual rank
- \$0.10 - within 6 ranks of state's actual rank

Please type the underlined sentences in the paragraph above this question in the text box.

[Screens 10a – 19a: 10 randomly selected states]

[control condition – not displayed]

[model condition]

Number of Major Airports	0
Census Population Rank - 2010	23
Number of Counties Rank	22
Median Household Income Rank - 2008	46
Domestic Travel Expenditure Rank - 2009	29

[human and model-and-human conditions]

Number of Major Airports	0
Census Population Rank - 2010	23
Number of Counties Rank	22
Median Household Income Rank - 2008	46
Domestic Travel Expenditure Rank - 2009	29

What do you think this state's rank is in terms of departing airline passengers in 2011? (Please enter a number 1-50)

[Screens 10b – 19b: feedback on forecasts for 10 randomly selected states]

[control condition – not displayed]

[model condition]

Model's Prediction:34

State's Actual Rank: 34

[human condition]

Your Prediction: [participant's prediction here]

State's Actual Rank: 34

[model-and-human condition]

Your Prediction: [participant's prediction here]

Model's Prediction:34

State's Actual Rank: 34

[Screen 20]

[model, human, and model-and-human conditions – not displayed]

[control condition]

Next, you will go through 1 official estimate.

You will be given a choice of having your estimated rank or the model's estimated rank count as the official estimate.

During the official round, you will receive additional bonus money based on the accuracy of the official estimate. You can earn \$0 to \$1 depending on how close the official estimate is to the actual rank.

The bonus will be determined as follows:

- \$1.00 - perfectly predict state's actual rank
- \$0.85 - within 1 rank of state's actual rank
- \$0.70 - within 2 ranks of state's actual rank
- \$0.55 - within 3 ranks of state's actual rank
- \$0.40 - within 4 ranks of state's actual rank
- \$0.25 - within 5 ranks of state's actual rank
- \$0.10 - within 6 ranks of state's actual rank

Please type the underlined sentences in the paragraph above this question in the text box.

[Screen 21]

[control condition]

You will receive the following information:

Number of Major Airports

The number of major airports in the state as determined by the Bureau of Transportation.
All states have smaller airports that this number does not account for

Census Population Rank - 2010

The state's rank in terms of population in 2010 from the U.S. Census Bureau
(1 = most populated U.S. state; 50 = least populated U.S. state)

Number of Counties Rank

The state's rank in terms of its number of counties
(1 = U.S. state with the most number of counties; 50 = U.S. state with the least number of counties)

Median Household Income Rank - 2008

The state's rank in terms of median household income in 2008 from the U.S. Census Bureau
(1 = U.S. state with the highest median income; 50 = U.S. state with the lowest median income)

Domestic Travel Expenditure Rank - 2009

The state's rank in terms of money spent by U.S. citizens traveling to the state in 2009 from the U.S. travel association
(1 = U.S. state with the most incoming expenditures; 50 = U.S. state with the least incoming expenditures)

[model, human, and model-and-human conditions]

Next, you will go through 1 official estimate.

You will receive the same information that you received in the training rounds:

Number of Major Airports

The number of major airports in the state as determined by the Bureau of Transportation.
All states have smaller airports that this number does not account for

Census Population Rank - 2010

The state's rank in terms of population in 2010 from the U.S. Census Bureau
(1 = most populated U.S. state; 50 = least populated U.S. state)

Number of Counties Rank

The state's rank in terms of its number of counties
(1 = U.S. state with the most number of counties; 50 = U.S. state with the least number of counties)

Median Household Income Rank - 2008

The state's rank in terms of median household income in 2008 from the U.S. Census Bureau
(1 = U.S. state with the highest median income; 50 = U.S. state with the lowest median income)

Domestic Travel Expenditure Rank - 2009

The state's rank in terms of money spent by U.S. citizens traveling to the state in 2009 from the U.S. travel association
(1 = U.S. state with the most incoming expenditures; 50 = U.S. state with the least incoming expenditures)

[Screen 22]

For the official estimate, you can choose to have either your estimated rank or the statistical model's estimated rank determine your bonus. In other words, you can choose to be paid based on your accuracy, or you can choose to be paid based on the model's accuracy. You will make an estimate no matter which option you choose.

The bonus will be determined as follows:

\$1.00 - perfectly predict state's actual rank
\$0.85 - within 1 rank of state's actual rank
\$0.70 - within 2 ranks of state's actual rank
\$0.55 - within 3 ranks of state's actual rank
\$0.40 - within 4 ranks of state's actual rank
\$0.25 - within 5 ranks of state's actual rank
\$0.10 - within 6 ranks of state's actual rank

Would you like your estimated rank or the model's estimated rank to determine your bonus?

Use only the statistical model's estimated rank
to determine my bonus.



Use only my estimated rank
to determine my bonus.



[Screens 23 and 24: randomized order]

[23]

On average, how many ranks do you think the model's estimates are away from states' actual ranks?

An answer of zero would mean that you think the model perfectly estimates all of the ranks. An answer of one would mean that you think the model's estimates are off by 1 rank, on average.

Your answer can range from 0-50.

[24]

On average, how many ranks do you think your estimates are away from states' actual ranks?

An answer of zero would mean that you think you perfectly estimate all of the ranks.
An answer of one would mean that you think your estimates are off by 1 rank, on average.


Your answer can range from 0-50.

[Screens 25 and 26: randomized order]

[25]

How much confidence do you have in the statistical model's estimates?


None Little Some A Fair Amount A Lot



[26]

How much confidence do you have in your estimates?

None Little Some A Fair Amount A Lot




[Screens 27 and 28: randomized order]

[27]

How likely is it that the model will predict a state's rank almost perfectly?


Certainly Not True Very Unlikely Unlikely Somewhat Unlikely Undecided Somewhat Likely Likely Very Likely Certainly True



[28]

How likely is it that you will predict a state's rank almost perfectly?

Certainly Not True Very Unlikely Unlikely Somewhat Unlikely Undecided Somewhat Likely Likely Very Likely Certainly True



[Screens 29 and 30: randomized order]

[29]

How many of the 50 states do you think you would estimate perfectly?

You answer can range from 0-50.

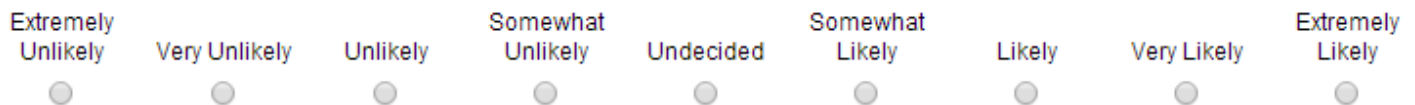
[30]

How many of the 50 states do you think the model would estimate perfectly?

You answer can range from 0-50.

[Screen 31]

How likely is the model to make a really bad estimate?



[Screen 32]

Now, you will go through 1 official estimate.

[Screen 33a: 1 randomly selected state]

Number of Major Airports	0
Census Population Rank - 2010	23
Number of Counties Rank	22
Median Household Income Rank - 2008	46
Domestic Travel Expenditure Rank - 2009	29

What do you think this state's rank is in terms of departing airline passengers in 2011? (Please enter a number 1-50)

[Screens 33b: feedback on forecast for 1 randomly selected state]

Your Prediction: [participant's prediction here]

Model's Prediction:34

Do you think that your estimate or the Model's estimate is closer to the last state's true rank?



[Screen 34]

Please indicate how you and the model compare on the following attributes:

	Model is much better	Model is better	Equal	I am better	I am much better
Detecting exceptions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoiding obvious mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning from mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appropriately weighing a state's attributes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consistently weighing information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treating each state individually	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Getting better with practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Screen 35]

[participants who selected the model's forecasts]

Why did you choose to have your bonus determined by the statistical model's estimate instead of your estimate?

[participants who selected their own forecasts]

Why did you choose to have your bonus determined by your estimate instead of the statistical model's estimate?

A large, empty rectangular text box with a thin black border, intended for a participant's response to the question above.

[Screen 36]

What are your thoughts and feelings about the statistical model?

A large, empty rectangular text box with a thin black border, intended for a participant's response to the question above.

[Screen 37]

You will learn and receive your bonus after all HITs have been completed.

If you earned a bonus of \$0, we will give you a \$0.01 bonus.

[Screen 38]

What is your age?

18 ▼

What is your gender?

- ☐ Male
- ☐ Female

What is the highest level of education you have completed?

- ☐ Less than High School
- ☐ High School / GED
- ☐ Some College
- ☐ 2-year College Degree
- ☐ 4-year College Degree
- ☐ Masters Degree
- ☐ Professional Degree (JD, MD)
- ☐ Doctoral Degree

[Screen 39]

Thanks for participating!

Please do not discuss any of the content in this survey with other people, including the choices that you made. Discussing any content from our survey will invalidate the results.

Please copy and paste the following Survey Code to Mechanical Turk to receive credit:

[Survey code here]

You will receive your bonus after all HITs have been completed.

Please click ">>" to complete this survey and return to Mechanical Turk. (It may take a few moments to save your responses).

Study 4

[Screen 1]

We are researchers at the University of Pennsylvania and we are investigating judgment and decision making. You will make judgments and predictions. Please be assured that your responses will be kept completely confidential.

In this survey, you will view information about students and make judgments about their potential to succeed in a graduate program.

The study should take you approximately 10 minutes to complete.

Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without prejudice.

By clicking the forward button, you acknowledge that your participation in the study is voluntary and that you are aware that you may choose to terminate your participation in the study at any time and for any reason without penalty.

Please enter your lab ID number in the space below.

[Screen 2]

In this study, you will have the opportunity to earn additional money by making accurate judgments. Please read all information very carefully.

[Screen 3]

In this task you will play the part of an admissions officer, and help decide which business-school applicants receive scholarship offers from a prestigious MBA program.

You will view judgments that were made by a past participant in the Wharton Behavioral Lab regarding projected performance for a set of MBA applicants.

This lab participant completed these judgments in Winter 2013. You will see his/her actual judgments.

[Screen 4]

It was the lab participant's job to estimate the performance of applicants to the MBA program. His/Her decisions rested entirely on how successful a student he/she believed each applicant will be.

The school judges a student's overall success on four dimensions, giving equal weight to each:

- Academic performance (GPA while in school)
- Respect of fellow students (assessed via a survey at the end of 2 years)
- Prestige of employer upon graduation (as measured in an annual poll of MBA students around the U.S.)
- Job success 2 years after graduation (measured by promotions and raises)

[Screen 5]

In addition to the lab participant's judgments, you will receive a prediction from a statistical model developed by the admissions office. This model is designed to forecast student performance. The model is based on hundreds of past students, using the same categories of demographic data you are receiving. This is a sophisticated model, put together by thoughtful analysts.

The model predicts the applicant's percentile among his/her classmates, according to the school's criteria (detailed on the previous screen – academic performance, respect of fellow students, prestige of employer upon graduation, and job success 2 years after graduation). Scores range from 0.00-99.99. For example, a score of 63.17 indicates that the model predicts the student will be in the 63rd percentile (63%) among his/her classmates. This means that the student is better than 63% of their classmates. The very best students are in the 100th percentile of their class.

[Screen 6]

All of the data shown in this study represents real data from real MBA students.

Based on this data, the lab participant was asked to predict how well students performed while in graduate school.

The lab participant made performance estimates for 10 applicants. His/Her estimates were based on a summary of the each applicant's applications. For each applicant you will receive the same information as the lab participant. He/She received the following information:

Undergraduate Degree

(Engineering, Liberal Arts, Business, or Other)

GMAT – Verbal

(0 to 60)

GMAT – Quantitative

(0 to 60)

Essays – Application essays, as rated by two independent readers

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Interviews – Interviewer rating

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Work Experience

(Years)

Average Salary Since Undergrad

(Dollars)

Average of Parents' Education

(No college experience - Multiple graduate degrees)

[Screen 7]

[control condition – not displayed]

[model condition]

Next, you will go through 15 practice rounds to gain experience with the data. You will see application data from students who were admitted to the program and graduated.

You will see the statistical model's ratings of how successful it predicted each student would be. Then, you will get feedback indicating how close the model's estimate was to each applicant's true performance.

[human condition]

Next, you will go through 15 practice rounds to gain experience with the data. You will see application data from students who were admitted to the program and graduated.

You will see the lab participant's ratings of how successful they predicted each student would be. Then, you will get feedback indicating how close his/her estimates were to each applicant's true performance.

[model-and-human condition]

Next, you will go through 15 practice rounds to gain experience with the data. You will see application data from students who were admitted to the program and graduated.

You will see the lab participant's ratings of how successful they predicted each student would be. You will also see the model's ratings for each student. Then, you will get feedback indicating how close his/her estimates and the model's estimates were to each applicant's true performance.

[Screens 8a – 22a: 15 MBA students that past participant saw]

[control condition – not displayed]

[model, human, and model-and-human conditions]

Undergraduate Degree	Business
GMAT - Verbal	44/60
GMAT - Quantitative	48/60
Essay Score	Very Good
Interview Score	Outstanding
Work Experience (years)	3
Average Salary	\$45,900
Average of Parents' Education	Multiple graduate degrees

[Screens 8b – 22b: feedback on forecasts for 15 MBA students that past participant saw]

[control condition – not displayed]

[model condition]

Model's Prediction: 100

Student's Actual Percentile: 83

[human condition]

Lab Participant's Prediction: [participant's prediction here]

Student's Actual Percentile: 83

[model-and-human condition]

Lab Participant's Prediction: [participant's prediction here]

Model's Prediction: 100

Student's Actual Percentile: 83

[Screen 23]

Next, the lab participant made their 10 official estimates.

[Screen 24]

[control condition]

For each applicant the lab participant received the following information:

Undergraduate Degree

(Engineering, Liberal Arts, Business, or Other)

GMAT – Verbal

(0 to 60)

GMAT – Quantitative

(0 to 60)

Essays – Application essays, as rated by two independent readers

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Interviews – Interviewer rating

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Work Experience

(Years)

Average Salary Since Undergrad

(Dollars)

Average of Parents' Education

(No college experience - Multiple graduate degrees)

[model, human, and model-and-human conditions]

For each applicant the lab participant received the same information that was provided in the training rounds:

Undergraduate Degree

(Engineering, Liberal Arts, Business, or Other)

GMAT – Verbal

(0 to 60)

GMAT – Quantitative

(0 to 60)

Essays – Application essays, as rated by two independent readers

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Interviews – Interviewer rating

(Below Expectations – Acceptable – Good – Very Good – Outstanding)

Work Experience

(Years)

Average Salary Since Undergrad

(Dollars)

Average of Parents' Education

(No college experience - Multiple graduate degrees)

[Screen 25]

You will receive a performance based bonus which depends on the following choice:

For all 10 official estimates, you can choose to have either the lab participant's estimates or the statistical model's estimates determine your bonuses. You can choose to be paid \$1 every time the lab participant's estimate is within 5 percentiles of a student's true performance, or \$1 every time the statistical model's estimate is within 5 percentiles of a student's true performance. Therefore, you can earn an extra \$0 to \$10 depending on your choice.

Please type the underlined sentences in the paragraph above this question in the text box.

Would you like the lab participant's estimates or the model's estimates to determine your bonuses for all 10 rounds?

Use only the statistical model's estimates
to determine my bonuses for all 10 rounds.



Use only the lab participant's estimates
to determine my bonuses for all 10 rounds.



[Screens 26a – 35a: 10 MBA students that past participant saw]

Undergraduate Degree	Business
GMAT - Verbal	44/60
GMAT - Quantitative	48/60
Essay Score	Very Good
Interview Score	Outstanding
Work Experience (years)	3
Average Salary	\$45,900
Average of Parents' Education	Multiple graduate degrees

[Screens 26b – 35b: feedback on forecasts for 10 MBA students that past participant saw]

Lab Participant's Prediction: [participant's prediction here]

Model's Prediction: 100

Do you think that the lab participant's estimate or the model's estimate is closer to the last student's true percentile?

The lab participant's estimate



The model's estimate



[Screens 36 and 37: randomized order]

[36]

What percent of the time do you think the model's estimates are within 5 percentiles of a student's true score? (Please enter a number 0-100 without a percent sign)

[37]

What percent of the time do you think the lab participant's estimates are within 5 percentiles of a student's true score? (Please enter a number 0-100 without a percent sign)

[Screens 38 and 39: randomized order]

[38]

How much confidence do you have in the statistical model's estimates?

None

Little

Some

A Fair Amount

A Lot

[39]

How much confidence do you have in the lab participant's estimates?

None

Little

Some

A Fair Amount

A Lot

[Screen 40]

Please indicate your beliefs about how the lab participant and the model compare on the following attributes:

	Model is much better	Model is better	Equal	Participant is better	Participant is much better
Detecting exceptions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding underappreciated candidates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoiding obvious mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning from mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appropriately weighing a candidate's qualities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consistently weighing information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treating each student individually	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Getting better with practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Screen 41]

[participants who selected the model's forecasts]

Why did you choose to have your bonus be determined by the statistical model's estimates instead of the lab participant's estimates?

[participants who selected the past participant's forecasts]

Why did you choose to have your bonus be determined by the lab participant's estimates instead of the statistical model's estimates?

[Screen 42]

What are your thoughts and feelings about the statistical model?

[Screen 43]

Please raise your hand to receive your bonus pay. Do not advance to the next page until a lab administrator has written down your bonus.

Your total bonus is: \$ [participant's bonus here]

[Screen 44]

What is your age?

18 ▼

What is your gender?

- ☐ Male
- ☐ Female

What is the highest level of education you have completed?

- ☐ Less than High School
- ☐ High School / GED
- ☐ Some College
- ☐ 2-year College Degree
- ☐ 4-year College Degree
- ☐ Masters Degree
- ☐ Professional Degree (JD, MD)
- ☐ Doctoral Degree

[Screen 45]

Thanks for participating!

Please click ">>" to complete this survey.