

Perception of Founders' Background in Startups

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Abstract

I look at the perception of the background of startup founders. We look at founders who were employees in a successful startup or founders in a failed/successful startup. We examine whether these backgrounds are affected by the gender of the founder. ADD MORE This research suggests specific steps for founders while pitching to customers/buyers.

1 Introduction

TODO:1: Reread, sanitation

I take reference from Singh [2021b], Singh [2021a] and look at the perception of founders' background. We use administer three different cases to participants, each containing one of the three backgrounds of startup founders: Founder in a failed startup, founder in a successful startup and employee in a successful startup. We ask participants to estimate the probability of funding, probability of success and probability of abandonment of the startup. We separately examine the three estimates based on the gender of the founders.

RESULTS

2 Literature Review

ADD CONTENT

2.0.1 Startup Experience

Startups are different from traditional businesses. Most of the times they have to chart their own course. If someone has relevant experience in navigating the journey, it would be helpful. Startups founded by people who have founded entities in the past might be better perceived than startups that do not have founders with entrepreneurial experience. Furthermore, if someone has entrepreneurial

experience, they are better equipped to deal with risk and the stress that comes with the role. As an employee the stress and risks are much lower. We expect to see better perception for founders than for employees and better perception for successful startups than for failed startups. The gender of the founder should play no role in estimation of the probability of success given that the previous startup founded by the same person was not successful. We expect to see no effect on gender and that the estimate for a gender-neutral founder to be the same for a male and a female founder.

3 Data and Method

3.1 Variables

3.1.1 Success

Success is not defined. The definition is kept open ended and it is based on perception of the participants.

3.1.2 Funding

Hot stuff. News captures. How others/investors would perceive the founders and the startup.

3.1.3 Abandonment

Associated with females that they might leave the startup due to societal pressure, matrimony or family needs.

3.1.4 Age

The founders across cases are aged 22,23 years (Case 1); 32,33 years (Case 2); and 42,43 years (Case 3). We

3.2 Method

We administered a survey to 300 participants. They were divided in six groups. Each group was given an identical case study of a startup and were asked to estimate the probability of success, probability of funding and probability of abandoning the startup. Each group had one of five cases as given below.

3.3 Data Summary

Summary of the data and read out. We name the cases as follows: Case 1a: Failed Founder Case 2: Successful Founder Case 3: Employee in a successful Startup Case 1b: Failed Female Founder Case 1c: Failed Male Founder

Table 1: This tables shows the summary of responses in the case where the startup founders worked in a successful startup in the past.

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Success	50	0.710	0.233	0.100	0.600	0.900	1.000
Funding	50	0.664	0.224	0.200	0.500	0.875	1.000
Abandon	51	0.380	0.281	0.000	0.200	0.550	1.000

Table 2: This tables shows the summary of responses in the case where the startup founders had founded a successful startup in the past.

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Success	48	0.677	0.238	0.100	0.500	0.825	1.000
Funding	49	0.676	0.226	0.000	0.500	0.900	1.000
Abandon	49	0.392	0.273	0.000	0.200	0.500	1.000

Table 3: This tables shows the summary of responses in the case where the startup founders had failed in their previous startup.

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Success	49	0.608	0.235	0.200	0.400	0.800	1.000
Funding	49	0.608	0.214	0.200	0.500	0.800	1.000
Abandon	50	0.388	0.248	0.000	0.200	0.500	1.000

Table 4: This tables shows the summary of responses in the case where the startup founders were females who had failed in their previous startup.

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Success	50	0.632	0.212	0.100	0.500	0.775	1.000
Funding	49	0.586	0.214	0.100	0.500	0.700	1.000
Abandon	50	0.436	0.263	0.000	0.225	0.600	1.000

Table 5: This tables shows the summary of responses in the case where the startup founders were males who had failed in their previous startup.

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Success	50	0.650	0.243	0.000	0.500	0.800	1.000
Funding	50	0.612	0.234	0.000	0.500	0.800	1.000
Abandon	50	0.356	0.251	0.000	0.100	0.500	1.000

3.4 Results

Graph on average results.

3.5 Success

We look at the values for probability of success as estimated by our respondents across various age groups.

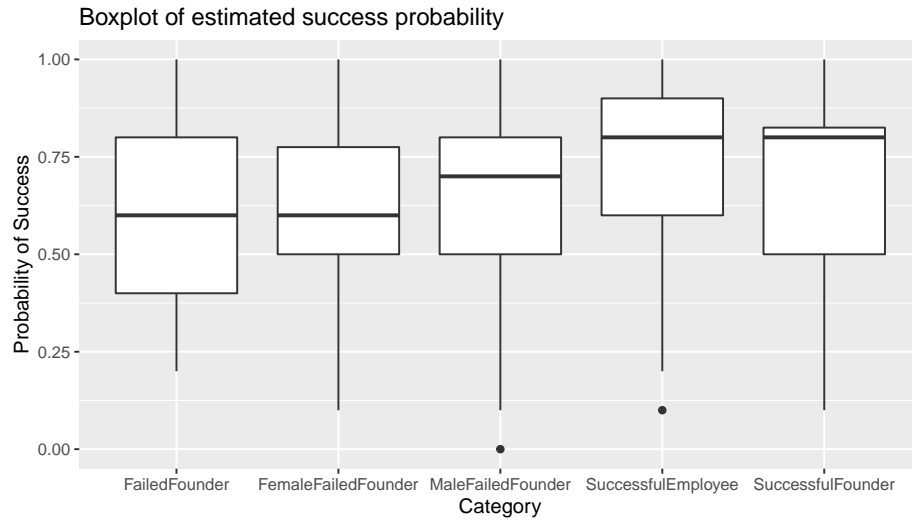


Figure 1: This box plot shows the probability of success as estimated across males and females and different age levels

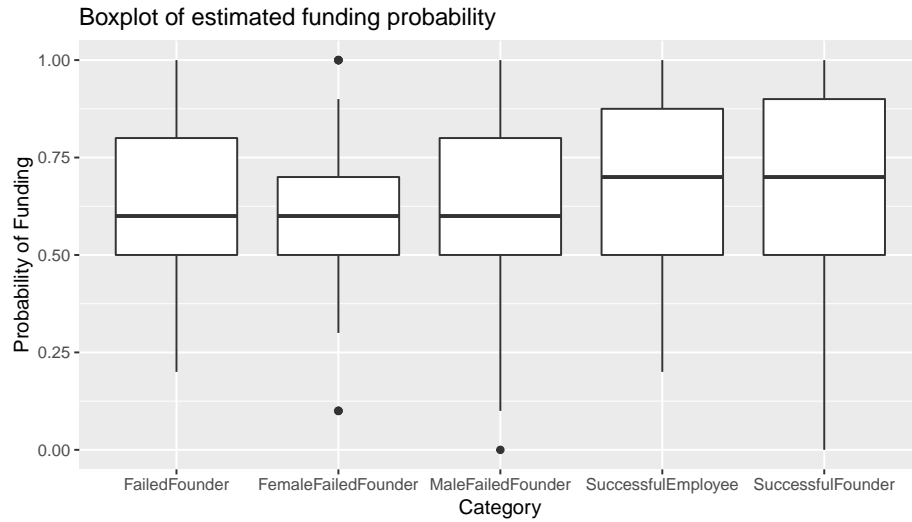


Figure 2: This box plot shows the probability of funding as estimated across males and females and different age levels.

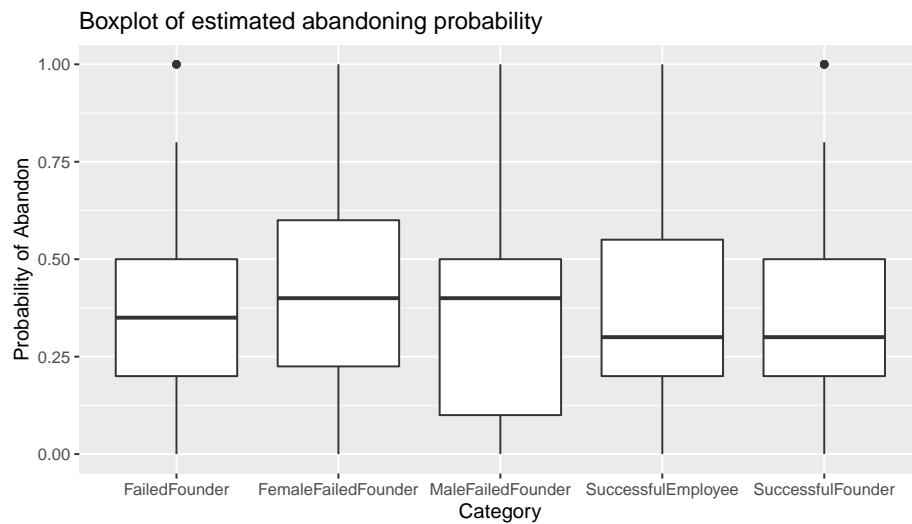


Figure 3: This box plot shows the probability of abandoning as estimated across males and females and different age levels.

3.6 Funding

3.7 Abandonment

3.8 Gender wise break up

3.8.1 Success

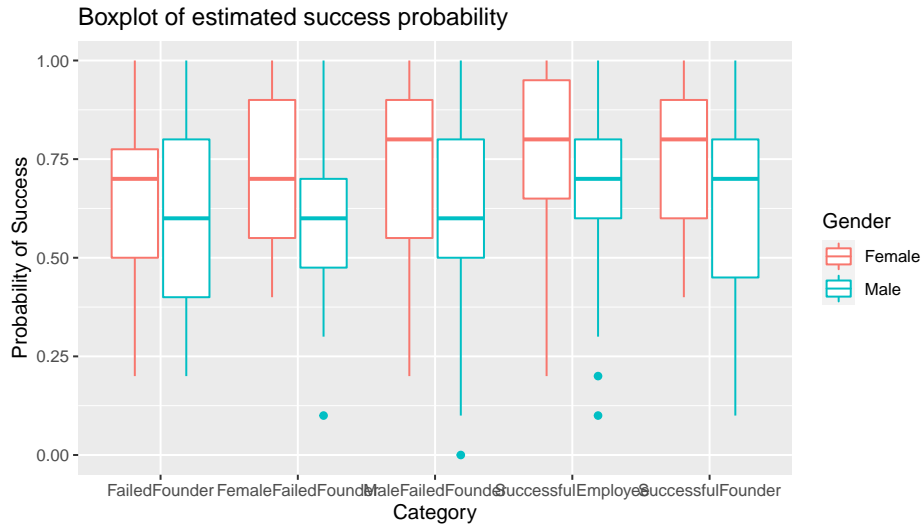


Figure 4: This box plot shows the probability of success as estimated by males and females across male and female founders with different education levels.

I compare how probability of success changes with the background of the founders changes with the gender of the respondents.

The mean estimate of Success of a startup founded by SuccessfulEmployee founders is 0.71. The p-value of the difference between estimated probability of Success estimated by male respondents and female respondents for startups founded by SuccessfulEmployee is 0.09. The mean estimate of Success of a startup founded by SuccessfulEmployee founders as per Malerespondents is 0.66. The mean estimate of Success of a startup founded by SuccessfulEmployee founders as per Female respondents is 0.77.

The mean estimate of Success of a startup founded by SuccessfulFounder founders is 0.68. The p-value of the difference between estimated probability of Success estimated by male respondents and female respondents for startups founded by SuccessfulFounder is 0.04. The mean estimate of Success of a startup founded by SuccessfulFounder founders as per Malerespondents is 0.62.

The mean estimate of Success of a startup founded by SuccessfulFounder founders as per Female respondents is 0.75.

The mean estimate of Success of a startup founded by FailedFounder founders is 0.61. The p-value of the difference between estimated probability of Success estimated by male respondents and female respondents for startups founded by FailedFounder is 0.66. The mean estimate of Success of a startup founded by FailedFounder founders as per Malerespondents is 0.6.

The mean estimate of Success of a startup founded by FailedFounder founders as per Female respondents is 0.63.

The mean estimate of Success of a startup founded by MaleFailedFounder founders is 0.65. The p-value of the difference between estimated probability of Success estimated by male respondents and female respondents for startups founded by MaleFailedFounder is 0.22. The mean estimate of Success of a startup founded by MaleFailedFounder founders as per Malerespondents is 0.62.

The mean estimate of Success of a startup founded by MaleFailedFounder founders as per Female respondents is 0.71.

The mean estimate of Success of a startup founded by FemaleFailedFounder founders is 0.63. The p-value of the difference between estimated probability of Success estimated by male respondents and female respondents for startups founded by FemaleFailedFounder is 0.08. The mean estimate of Success of a startup founded by FemaleFailedFounder founders as per Malerespondents is 0.6.

The mean estimate of Success of a startup founded by FemaleFailedFounder founders as per Female respondents is 0.72.

The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and SuccessfulFounder is 0.49.

The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and FailedFounder is 0.03.

The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and MaleFailedFounder is 0.21.

The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and FemaleFailedFounder is 0.08.

The p-value of the difference between estimated probability of Success for startups founded by SuccessfulFounder and FailedFounder is 0.15.

The p-value of the difference between estimated probability of Success for startups founded by SuccessfulFounder and MaleFailedFounder is 0.58.

The p-value of the difference between estimated probability of Success for startups founded by SuccessfulFounder and FemaleFailedFounder is 0.33.

The p-value of the difference between estimated probability of Success for startups founded by FailedFounder and MaleFailedFounder is 0.39.

The p-value of the difference between estimated probability of Success for startups founded by FailedFounder and FemaleFailedFounder is 0.6.

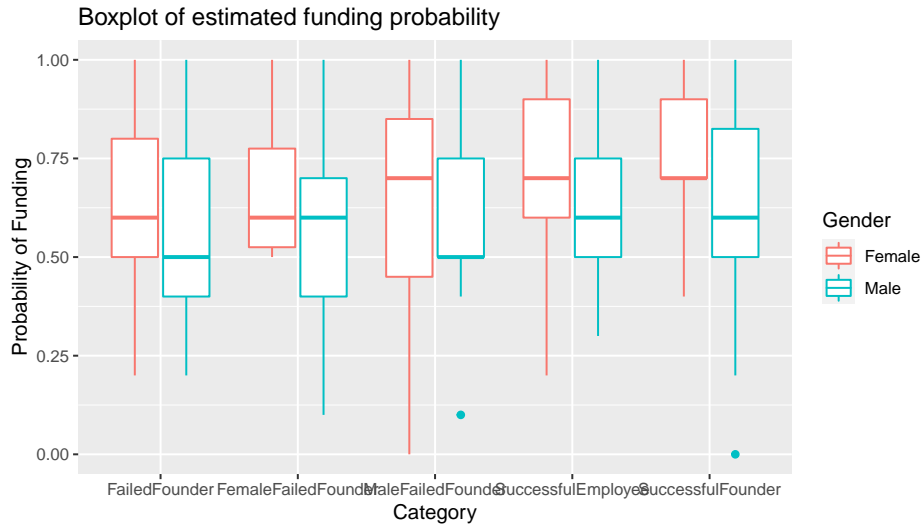
The p-value of the difference between estimated probability of Success for startups founded by MaleFailedFounder and FemaleFailedFounder is 0.69.

The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and SuccessfulFounder as estimated by Male respondents is 0.55. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and SuccessfulFounder as

estimated by Female respondents is 0.78. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and FailedFounder as estimated by Male respondents is 0.32. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and FailedFounder as estimated by Female respondents is 0.06. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and MaleFailedFounder as estimated by Male respondents is 0.5. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and MaleFailedFounder as estimated by Female respondents is 0.38. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and FemaleFailedFounder as estimated by Male respondents is 0.28. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulEmployee and FemaleFailedFounder as estimated by Female respondents is 0.52. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulFounder and FailedFounder as estimated by Male respondents is 0.74. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulFounder and FailedFounder as estimated by Female respondents is 0.08. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulFounder and MaleFailedFounder as estimated by Male respondents is 0.97. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulFounder and MaleFailedFounder as estimated by Female respondents is 0.5. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulFounder and FemaleFailedFounder as estimated by Male respondents is 0.73. The p-value of the difference between estimated probability of Success for startups founded by SuccessfulFounder and FemaleFailedFounder as estimated by Female respondents is 0.66. The p-value of the difference between estimated probability of Success for startups founded by FailedFounder and MaleFailedFounder as estimated by Male respondents is 0.75. The p-value of the difference between estimated probability of Success for startups founded by FailedFounder and MaleFailedFounder as estimated by Female respondents is 0.34. The p-value of the difference between estimated probability of Success for startups founded by FailedFounder and FemaleFailedFounder as estimated by Male respondents is 0.99. The p-value of the difference between estimated probability of Success for startups founded by FailedFounder and FemaleFailedFounder as estimated by Female respondents is 0.25. The p-value of the difference between estimated probability of Success for startups founded by MaleFailedFounder and FemaleFailedFounder as estimated by Male respondents is 0.73. The p-value of the difference between estimated probability of Success for startups founded by MaleFailedFounder and FemaleFailedFounder as estimated by Female respondents is 0.84.

SEE ABOVE THIS LINE.

3.8.2 Funding



As visible in Figure ??, the estimation of the funding of the startup also varies as per the gender of the respondent.

The mean estimate of Funding of a startup founded by SuccessfulEmployee founders is 0.66. The p-value of the difference between estimated probability of Funding estimated by male and female respondents for startups founded by SuccessfulEmployee is 0.3. The mean estimate of Funding of a startup founded by SuccessfulEmployee founders as per Female respondents is 0.7.

The mean estimate of Funding of a startup founded by SuccessfulEmployee founders as per Male respondents is 0.63.

The mean estimate of Funding of a startup founded by SuccessfulFounder founders is 0.68. The p-value of the difference between estimated probability of Funding estimated by male and female respondents for startups founded by SuccessfulFounder is 0.08. The mean estimate of Funding of a startup founded by SuccessfulFounder founders as per Female respondents is 0.74.

The mean estimate of Funding of a startup founded by SuccessfulFounder founders as per Male respondents is 0.63.

The mean estimate of Funding of a startup founded by FailedFounder founders is 0.61. The p-value of the difference between estimated probability of Funding estimated by male and female respondents for startups founded by FailedFounder is 0.37. The mean estimate of Funding of a startup founded by FailedFounder founders as per Female respondents is 0.64.

The mean estimate of Funding of a startup founded by FailedFounder founders as per Male respondents is 0.59.

The mean estimate of Funding of a startup founded by MaleFailedFounder founders is 0.61. The p-value of the difference between estimated probability of Funding estimated by male and female respondents for startups founded by

MaleFailedFounder is 0.67. The mean estimate of Funding of a startup founded by MaleFailedFounder founders as per Female respondents is 0.63. The mean estimate of Funding of a startup founded by MaleFailedFounder founders as per Male respondents is 0.6. The mean estimate of Funding of a startup founded by FemaleFailedFounder founders is 0.59. The p-value of the difference between estimated probability of Funding estimated by male and female respondents for startups founded by FemaleFailedFounder is 0.04. The mean estimate of Funding of a startup founded by FemaleFailedFounder founders as per Female respondents is 0.68. The mean estimate of Funding of a startup founded by FemaleFailedFounder founders as per Male respondents is 0.55. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and SuccessfulFounder is 0.8. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and FailedFounder is 0.21. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and MaleFailedFounder is 0.26. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and FemaleFailedFounder is 0.08. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulFounder and FailedFounder is 0.13. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulFounder and MaleFailedFounder is 0.17. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulFounder and FemaleFailedFounder is 0.05. The p-value of the difference between estimated probability of Funding for startups founded by FailedFounder and MaleFailedFounder is 0.93. The p-value of the difference between estimated probability of Funding for startups founded by FailedFounder and FemaleFailedFounder is 0.6. The p-value of the difference between estimated probability of Funding for startups founded by MaleFailedFounder and FemaleFailedFounder is 0.56. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and SuccessfulFounder as estimated by Male respondents is 0.94. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and SuccessfulFounder as estimated by Female respondents is 0.55. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and FailedFounder as estimated by Male respondents is 0.42. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and FailedFounder as estimated by Female respondents is 0.43. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and MaleFailedFounder as estimated by Male respondents is 0.56. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and MaleFailedFounder as estimated by Female respondents is 0.39. The p-value of the difference between estimated probability of Funding for startups founded by

SuccessfulEmployee and FemaleFailedFounder as estimated by Male respondents is 0.13. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulEmployee and FemaleFailedFounder as estimated by Female respondents is 0.76. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulFounder and FailedFounder as estimated by Male respondents is 0.49. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulFounder and FailedFounder as estimated by Female respondents is 0.16. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulFounder and MaleFailedFounder as estimated by Male respondents is 0.63. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulFounder and MaleFailedFounder as estimated by Female respondents is 0.16. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulFounder and FemaleFailedFounder as estimated by Male respondents is 0.18. The p-value of the difference between estimated probability of Funding for startups founded by SuccessfulFounder and FemaleFailedFounder as estimated by Female respondents is 0.36. The p-value of the difference between estimated probability of Funding for startups founded by FailedFounder and MaleFailedFounder as estimated by Male respondents is 0.81. The p-value of the difference between estimated probability of Funding for startups founded by FailedFounder and MaleFailedFounder as estimated by Female respondents is 0.87. The p-value of the difference between estimated probability of Funding for startups founded by FailedFounder and FemaleFailedFounder as estimated by Male respondents is 0.47. The p-value of the difference between estimated probability of Funding for startups founded by FailedFounder and FemaleFailedFounder as estimated by Female respondents is 0.63. The p-value of the difference between estimated probability of Funding for startups founded by MaleFailedFounder and FemaleFailedFounder as estimated by Male respondents is 0.33. The p-value of the difference between estimated probability of Funding for startups founded by MaleFailedFounder and FemaleFailedFounder as estimated by Female respondents is 0.55.

3.8.3 Abandon

As visible in Figure 5, the estimation of the abandoning of the startup also varies as per the gender of the respondent.

The mean estimate of Abandon of a startup founded by SuccessfulEmployee founders is 0.38. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee as estimated by male and female respondents is 0.72. The mean estimate of Abandon of a startup founded by SuccessfulEmployee founders as per male respondents is 0.37.

The mean estimate of Abandon of a startup founded by SuccessfulEmployee founders as per female respondents is 0.4.

The mean estimate of Abandon of a startup founded by SuccessfulFounder

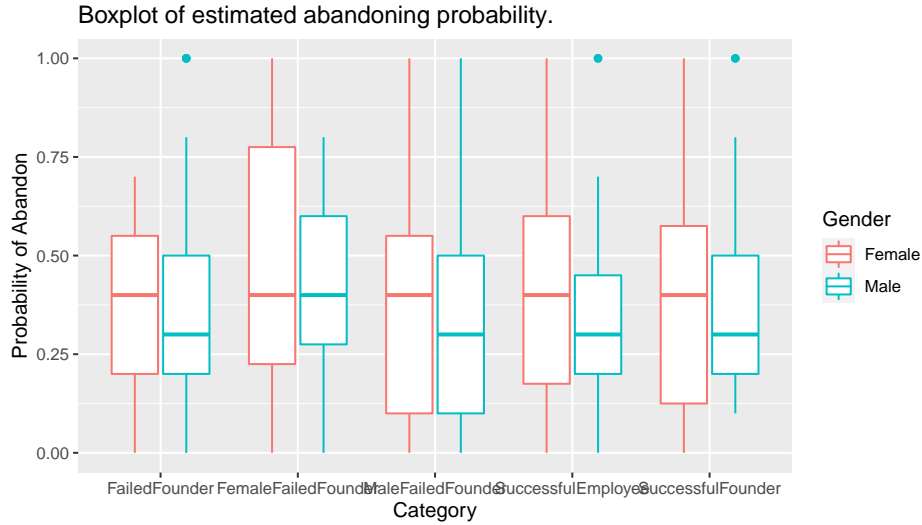


Figure 5: This box plot shows the probability of abandoning as estimated by males and females across male and female founders with different education levels.

founders is 0.39. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder as estimated by male and female respondents is 0.7. The mean estimate of Abandon of a startup founded by SuccessfulFounder founders as per male respondents is 0.38.

The mean estimate of Abandon of a startup founded by SuccessfulFounder founders as per female respondents is 0.41.

The mean estimate of Abandon of a startup founded by FailedFounder founders is 0.39. The p-value of the difference between estimated probability of Abandon for startups founded by FailedFounder as estimated by male and female respondents is 0.83. The mean estimate of Abandon of a startup founded by FailedFounder founders as per male respondents is 0.39.

The mean estimate of Abandon of a startup founded by FailedFounder founders as per female respondents is 0.38.

The mean estimate of Abandon of a startup founded by MaleFailedFounder founders is 0.36. The p-value of the difference between estimated probability of Abandon for startups founded by MaleFailedFounder as estimated by male and female respondents is 0.64. The mean estimate of Abandon of a startup founded by MaleFailedFounder founders as per male respondents is 0.34.

The mean estimate of Abandon of a startup founded by MaleFailedFounder founders as per female respondents is 0.38.

The mean estimate of Abandon of a startup founded by FemaleFailedFounder founders is 0.44. The p-value of the difference between estimated probability of Abandon for startups founded by FemaleFailedFounder as estimated by male and female respondents is 0.69. The mean estimate of Abandon of a startup

founded by FemaleFailedFounder founders as per male respondents is 0.42.

The mean estimate of Abandon of a startup founded by FemaleFailedFounder founders as per female respondents is 0.46.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and SuccessfulFounder is 0.84.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and FailedFounder is 0.89.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and MaleFailedFounder is 0.65.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and FemaleFailedFounder is 0.31.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder and FailedFounder is 0.94.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder and MaleFailedFounder is 0.5.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder and FemaleFailedFounder is 0.41.

The p-value of the difference between estimated probability of Abandon for startups founded by FailedFounder and MaleFailedFounder is 0.52.

The p-value of the difference between estimated probability of Abandon for startups founded by FailedFounder and FemaleFailedFounder is 0.35.

The p-value of the difference between estimated probability of Abandon for startups founded by MaleFailedFounder and FemaleFailedFounder is 0.12.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and SuccessfulFounder as estimated by Male respondents is 0.88. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and SuccessfulFounder as estimated by Female respondents is 0.88. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and FailedFounder as estimated by Male respondents is 0.71.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and FailedFounder as estimated by Female respondents is 0.83. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and MaleFailedFounder as estimated by Male respondents is 0.71. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and MaleFailedFounder as estimated by Female respondents is 0.85. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and FemaleFailedFounder as estimated by Male respondents is 0.37. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulEmployee and FemaleFailedFounder as estimated by Female respondents is 0.54. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder and FailedFounder as estimated by Male respondents is 0.82. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder and FailedFounder as estimated by Female respondents is 0.7.

The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder and MaleFailedFounder as estimated by Male respondents is 0.59. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder and MaleFailedFounder as estimated by Female respondents is 0.74. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder and FemaleFailedFounder as estimated by Male respondents is 0.46. The p-value of the difference between estimated probability of Abandon for startups founded by SuccessfulFounder and FemaleFailedFounder as estimated by Female respondents is 0.62. The p-value of the difference between estimated probability of Abandon for startups founded by FailedFounder and MaleFailedFounder as estimated by Male respondents is 0.42. The p-value of the difference between estimated probability of Abandon for startups founded by FailedFounder and MaleFailedFounder as estimated by Female respondents is 1. The p-value of the difference between estimated probability of Abandon for startups founded by FailedFounder and FemaleFailedFounder as estimated by Male respondents is 0.62. The p-value of the difference between estimated probability of Abandon for startups founded by FailedFounder and FemaleFailedFounder as estimated by Female respondents is 0.41. The p-value of the difference between estimated probability of Abandon for startups founded by MaleFailedFounder and FemaleFailedFounder as estimated by Male respondents is 0.15. The p-value of the difference between estimated probability of Abandon for startups founded by MaleFailedFounder and FemaleFailedFounder as estimated by Female respondents is 0.45.

4 Conclusion

We see that while there is no difference in the perception of success, funding or abandonment of a startup based on whether the founders are CASE 1 or CASE 2, we see that the perception of males and females varies. A practical import of this would be * If the product is targeted towards females, Vs males * If the investor who is evaluating the startup for funding is a male Vs Female * (IN case of abandon), then the founders should spend time showing commitment * This could explain some difference between the funding obtained by women

5 Limitations

- We do not look at founders who were employees in a failed startup.
- Investors might be more sophisticated and not be biased though extant research has shown otherwise ¹
- We do not analyse the results based on the background of the respondents.

¹ADD Literature

6 ToDO

- Correct Labels
- Write as per plan of View followed by Gender
- Write a separate one on familiarity.

References

- Dr Preet Deep Singh. Perception of founders' education and gender in startups. *Available at SSRN 3916424*, 2021a.
- Preet Deep Singh. Perception of gender&founder background in startups. *Available at SSRN 3912640*, 2021b.