# Relationship between Racial Bias Exposure, Financial Literacy, and Entrepreneurial Intention: An Empirical Investigation

## Ziheng Song

Columbia University in the City of New York https://orcid.org/0000-0003-1265-0150

# Greer Mellon

Columbia University in the City of New York

Discrimination, Entrepreneurial, Financial Literacy, Intention, Implicit Bias, Microaggressions, Stereotyping,

# Zihan Shen

**Keywords:** 

Case Western Reserve University

Structural Inequality

RECEIVED 17 March 2020

REVISED 6 October 2020

ACCEPTED FOR PUBLICATION 8 October 2020 PUBLISHED 14 October 2020

#### Abstract

Understanding the impact of racial bias exposure on entrepreneurial intention is essential in creating a more inclusive and diverse entrepreneurial ecosystem. By studying this relationship, we can identify the underlying factors that hinder underrepresented groups from pursuing entrepreneurship and take steps to mitigate their negative effects. Using a dataset of 408 individuals from diverse ethnic groups, this study used four popular classification algorithms, including K-Nearest Neighbors (KNN), Support Vector Machines (SVM), Logistic Regression, and Random Forest, to analyze a diverse sample population. The results indicate that financial literacy and racial biases play significant roles in shaping entrepreneurial intention. Among the four classifiers, KNN and Random Forest performed best in identifying the most salient predictors of entrepreneurial intention. The study used 4 racial bias exposure metrics, namely, Discrimination, Stereotyping, Microaggressions, Implicit Bias, and Structural Inequality. The other two variables are Financial Literacy, and Gender. The findings show that discrimination and stereotyping have more direct and significant impacts on entrepreneurial intention than other metrics. Discrimination, which measures experiences of unfair treatment based on race, can limit an individual's access to resources, networks, and opportunities necessary for starting and growing a business. Stereotyping which measures the extent to which an individual is judged or perceived as less competent because of their race, can also impact an individual's confidence and motivation to pursue entrepreneurial goals. Stereotyping can also affect how an individual is perceived by potential investors, customers, and partners, potentially limiting their ability to attract and retain key stakeholders. The findings of this study also shows that Implicit Bias and Structural Inequality have less direct impact on entrepreneurial intention than the other metrics. While these biases can still influence behavior, they may be less directly linked to an individual's intention to start a business than more overt experiences of discrimination, stereotyping, or microaggressions. Similarly, although, Structural Inequality can have a significant impact on an individual's overall opportunities and economic mobility, it may be less directly linked to their entrepreneurial intention. The findings also show that financial literacy and gender play crucial roles in shaping an individual's mindset towards entrepreneurship, with higher levels of financial literacy and more equitable gender representation resulting in increased entrepreneurial intention. The findings of this study shed light on the importance of addressing racial biases in the entrepreneurial ecosystem and provide valuable insights for policymakers and practitioners seeking to foster inclusive and equitable entrepreneurial environments.

#### Introduction

A diverse ecosystem that encompasses entrepreneurs of all genders, races, ethnicities, religions, and cultures will help to create a more equitable and sustainable future. When we include a wide range of voices and perspectives, we foster innovation and creativity, leading to more effective problem-solving and greater economic growth. By embracing a wide range of voices and perspectives, businesses can stimulate creativity and innovation, which can result in an enhanced competitive edge. The creation of an inclusive and diverse entrepreneurial ecosystem can also help to address the issue of systemic barriers that many marginalized groups face when it comes to starting and running a business. For instance, research has shown that women, people of color, and members of other marginalized groups often lack access to capital, networking opportunities, and mentorship, which can hamper their ability to succeed. By prioritizing inclusivity and diversity, entrepreneurs from all backgrounds can have equal access to resources and support, which can foster a more equitable playing field.

Moreover, an inclusive entrepreneurial ecosystem can contribute to the economic growth of underserved areas. By supporting a diverse range of entrepreneurs, businesses can help to create jobs and promote economic stability in these communities. In turn, this can help to reduce poverty and increase economic opportunities, strengthening local communities. In addition, an inclusive entrepreneurial ecosystem can cultivate a culture of innovation and creativity by encouraging collaboration among entrepreneurs from diverse backgrounds. This diversity can inspire new ideas and approaches to problem-solving, leading to more innovative and effective solutions. As a result, the creation of an inclusive and diverse entrepreneurial ecosystem can spur new technologies and industries, ultimately benefiting society as a whole.

Entrepreneurship is often seen as a way to overcome the barriers to traditional employment and to create wealth and opportunities. However, for many minorities and gender groups, entrepreneurship remains an uphill battle due to systemic discrimination. Women entrepreneurs, for example, face a wide range of challenges, including a lack of access to funding, lower levels of social support, and cultural expectations that limit their opportunities. Additionally, women of color are often doubly marginalized due to their gender and race, which leads to even greater levels of discrimination. Minorities, including Black, Latinx, and Indigenous entrepreneurs, also face significant barriers when trying to start and grow their businesses. These barriers include limited access to capital, difficulty navigating complex regulatory environments, and discrimination from potential customers and partners. Minority entrepreneurs may also face additional challenges related to language barriers, cultural differences, and lack of access to networks and resources.

LGBTQ entrepreneurs face similar challenges. They may face discrimination from potential customers or investors due to their sexual orientation or gender identity, which can limit their ability to grow their businesses. Additionally, they may be excluded from networks and resources that are available to other entrepreneurs, which can make it harder for them to access capital and support. Entrepreneurship can be especially difficult for individuals with disabilities. They may face challenges related to physical accessibility, as well as difficulty accessing financing and support. Additionally, ableist attitudes and assumptions can make it harder for entrepreneurs with disabilities to be taken seriously or to access the support and resources they need to succeed.

Entrepreneurs from low-income backgrounds face a wide range of challenges that can make it difficult for them to start and grow their businesses. These challenges include a lack of access to capital, limited educational opportunities, and a lack of social and cultural capital. Additionally, low-income entrepreneurs may struggle to find the time and resources to devote to their businesses due to other demands on their time, such as caring for family members or working multiple jobs to make ends meet.

Entrepreneurship can be an important way for individuals to overcome traditional barriers to employment and create wealth and opportunity. For many minorities and gender groups, entrepreneurship remains a difficult and often discriminatory path. Addressing these challenges requires a multi-faceted approach, including increasing access to capital and support, addressing systemic discrimination, and promoting greater diversity and inclusion in the entrepreneurship ecosystem.

#### Methods

The current study employed a range of sophisticated machine learning algorithms including K-Nearest Neighbors (KNN), Support Vector Machines (SVM), Logistic Regression, and Random Forest, to investigate the impacts of exposure to racial biases on entrepreneurial intention. By utilizing these advanced analytical methods, the study was able to account for the complex and nonlinear relationships between the various factors and accurately predict the effects of racial biases on entrepreneurial intention. K-Nearest Neighbors (KNN) is a non-parametric machine learning algorithm that performs classification by finding the K closest data points in the training set to a new observation and using their class labels to predict the class of the new observation. KNN is based on the assumption that similar things are likely to be in the same class, and it is particularly useful when the decision boundary is nonlinear or when there are complex interactions between the features. KNN is sensitive to the choice of K, and it can be computationally expensive when the training set is large.

Support Vector Machines (SVM) is a powerful and versatile machine learning algorithm that can perform both classification and regression tasks. SVM is based on the idea of finding a hyperplane that separates the data into different classes or predicts the target variable, with the largest margin possible between the closest data points of the different classes. SVM can handle non-linear decision boundaries by using kernel functions to map the data into a higher-dimensional space where the classes are separable. SVM is particularly useful when the number of features is much larger than the number of observations, and it can handle outliers and noisy data well.

Logistic Regression is a parametric machine learning algorithm that is used for binary classification tasks. Logistic regression models the probability of the binary outcome as a function of the features, and it uses a sigmoid function to map the output to the range of [0,1]. Logistic regression is based on the maximum likelihood estimation, and it can handle both

**Jaww** 

continuous and categorical features. Logistic regression assumes that the relationship between the features and the outcome is linear, and it is particularly useful when the data is well-behaved and the number of observations is large.

A logistic function is expressed as:

$$logistic(\eta) = \frac{1}{1 + exp(-\eta)}$$

Since we find probabilities between 0 and 1 to be more useful for classification, we include them into the right side of the equation using the logistic function. The output is constrained to assume only values between 0 and 1.

$$\hat{y}^{(i)} = \beta_0 + \beta_1 x_1^{(i)} + \dots + \beta_p x_p^{(i)}$$
$$P(y^{(i)} = 1) = \frac{1}{1 + exp(-(\beta_0 + \beta_1 x_1^{(i)} + \dots + \beta_p x_p^{(i)}))}$$

For a multiclass case, we can express in the following from.

$$\mathbf{y}_n = \begin{bmatrix} 0\\1\\\dots\\0 \end{bmatrix} \in \mathbb{R}^K$$

Random Forest is an ensemble machine learning algorithm that combines multiple decision trees to improve the performance and reduce the overfitting of the model. Random Forest builds multiple decision trees using bootstrapped samples of the data and a random subset of the features, and it uses a majority vote or averaging to make the final prediction. Random Forest can handle nonlinear and complex decision boundaries, and it is particularly useful when the number of features is large and some of them are irrelevant or redundant. Random Forest can also provide information about the feature importance and the interactions between the features. To collect the dataset, we formulated the questionnaires presented in table 1.

	Table 1. Questionnaires
Discrimination	Questionnaires
Q1	Have you ever felt that you were unfairly treated based on your race?
Q2	Have you ever experienced being excluded from social activities because of your race?
Q3	Have you ever been harassed or threatened because of your race?
Q4	Have you ever felt that you were not hired or promoted because of your race?

Q5	Have you ever experienced receiving less favorable treatment because of your race?
Stereotyping	Questionnaires
Q1	Have you ever been judged or perceived as less competent because of your race?
Q2	Have you ever been assumed to be less intelligent because of your race?
Q3	Have you ever felt that you were not trusted because of your race?
	Have you ever felt that people automatically assumed certain things about you because of your
Q4	race?
Q5	Have you ever felt that you were not taken seriously because of your race?
Microaggressions	Questionnaires
Q1	Have you ever been asked where you are really from?
Q2	Have you ever been assumed to be from a certain nationality or ethnic group?
Q3	Have you ever been followed or surveilled in stores?
Q4	Have you ever been subjected to derogatory comments or jokes about your race?
Q5	Have you ever been told that you don't "look like" or "sound like" a person of your race?
Implicit Bias	Questionnaires
Q1	Have you experienced subtle discrimination based on personal characteristics?
Q2	Have you witnessed others being treated unfairly due to their personal characteristics?
Q3	Do you think implicit bias affects decision-making in your workplace or other organizations?
Q4	Have you participated in implicit bias education or training, and if so, did you find it effective?
Q5	Can people change their implicit biases, and if so, what steps can be taken to reduce them?
Structural	
Inequality	Questionnaires
Q1	
	Have you ever experienced unequal treatment or opportunities because of your race?
Q2	Have you ever felt that certain institutions or systems are biased against your race?
Q3	Have you ever felt that certain institutions or systems are biased against your race? Have you ever experienced a lack of diversity in your workplace or academic setting?
Q3 Q4	Have you ever felt that certain institutions or systems are biased against your race? Have you ever experienced a lack of diversity in your workplace or academic setting? Have you ever experienced a lack of access to resources or opportunities because of your race?
Q3 Q4 Q5	Have you ever felt that certain institutions or systems are biased against your race? Have you ever experienced a lack of diversity in your workplace or academic setting? Have you ever experienced a lack of access to resources or opportunities because of your race? Have you ever felt that your race has impacted your social or economic mobility?
Q3 Q4	Have you ever felt that certain institutions or systems are biased against your race? Have you ever experienced a lack of diversity in your workplace or academic setting? Have you ever experienced a lack of access to resources or opportunities because of your race? Have you ever felt that your race has impacted your social or economic mobility? Questionnaires
Q3 Q4 Q5 Financial Literacy	<ul> <li>Have you ever felt that certain institutions or systems are biased against your race?</li> <li>Have you ever experienced a lack of diversity in your workplace or academic setting?</li> <li>Have you ever experienced a lack of access to resources or opportunities because of your race?</li> <li>Have you ever felt that your race has impacted your social or economic mobility?</li> <li>Questionnaires</li> <li>Do you have a clear understanding of your business's financial statements, such as the balance</li> </ul>
Q3 Q4 Q5 Financial Literacy Q1	<ul> <li>Have you ever felt that certain institutions or systems are biased against your race?</li> <li>Have you ever experienced a lack of diversity in your workplace or academic setting?</li> <li>Have you ever experienced a lack of access to resources or opportunities because of your race?</li> <li>Have you ever felt that your race has impacted your social or economic mobility?</li> <li>Questionnaires</li> <li>Do you have a clear understanding of your business's financial statements, such as the balance sheet and income statement?</li> </ul>
Q3 Q4 Q5 Financial Literacy	<ul> <li>Have you ever felt that certain institutions or systems are biased against your race?</li> <li>Have you ever experienced a lack of diversity in your workplace or academic setting?</li> <li>Have you ever experienced a lack of access to resources or opportunities because of your race?</li> <li>Have you ever felt that your race has impacted your social or economic mobility?</li> <li>Questionnaires</li> <li>Do you have a clear understanding of your business's financial statements, such as the balance sheet and income statement?</li> <li>How comfortable are you with creating and maintaining a budget for your business?</li> </ul>
Q3 Q4 Q5 Financial Literacy Q1	<ul> <li>Have you ever felt that certain institutions or systems are biased against your race?</li> <li>Have you ever experienced a lack of diversity in your workplace or academic setting?</li> <li>Have you ever experienced a lack of access to resources or opportunities because of your race?</li> <li>Have you ever felt that your race has impacted your social or economic mobility?</li> <li>Questionnaires</li> <li>Do you have a clear understanding of your business's financial statements, such as the balance sheet and income statement?</li> </ul>
Q3 Q4 Q5 Financial Literacy Q1 Q2	<ul> <li>Have you ever felt that certain institutions or systems are biased against your race?</li> <li>Have you ever experienced a lack of diversity in your workplace or academic setting?</li> <li>Have you ever experienced a lack of access to resources or opportunities because of your race?</li> <li>Have you ever felt that your race has impacted your social or economic mobility?</li> <li>Questionnaires</li> <li>Do you have a clear understanding of your business's financial statements, such as the balance sheet and income statement?</li> <li>How comfortable are you with creating and maintaining a budget for your business?</li> <li>Do you understand the difference between profit and cash flow, and how they affect your business's financial health?</li> <li>Are you aware of the various funding options available to small businesses, and how to</li> </ul>
Q3 Q4 Q5 Financial Literacy Q1 Q2	<ul> <li>Have you ever felt that certain institutions or systems are biased against your race?</li> <li>Have you ever experienced a lack of diversity in your workplace or academic setting?</li> <li>Have you ever experienced a lack of access to resources or opportunities because of your race?</li> <li>Have you ever felt that your race has impacted your social or economic mobility?</li> <li>Questionnaires</li> <li>Do you have a clear understanding of your business's financial statements, such as the balance sheet and income statement?</li> <li>How comfortable are you with creating and maintaining a budget for your business?</li> <li>Do you understand the difference between profit and cash flow, and how they affect your business's financial health?</li> <li>Are you aware of the various funding options available to small businesses, and how to determine which ones are the best fit for your company?</li> </ul>
Q3 Q4 Q5 Financial Literacy Q1 Q2 Q3	<ul> <li>Have you ever felt that certain institutions or systems are biased against your race?</li> <li>Have you ever experienced a lack of diversity in your workplace or academic setting?</li> <li>Have you ever experienced a lack of access to resources or opportunities because of your race?</li> <li>Have you ever felt that your race has impacted your social or economic mobility?</li> <li>Questionnaires</li> <li>Do you have a clear understanding of your business's financial statements, such as the balance sheet and income statement?</li> <li>How comfortable are you with creating and maintaining a budget for your business?</li> <li>Do you understand the difference between profit and cash flow, and how they affect your business's financial health?</li> <li>Are you aware of the various funding options available to small businesses, and how to</li> </ul>

### Results

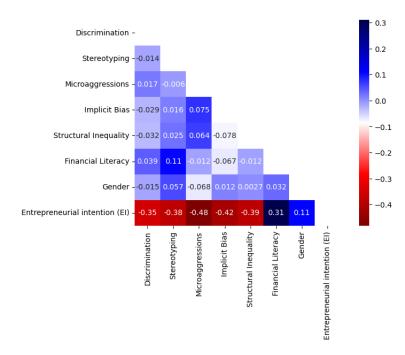
Entrepreneurial intention (EI) is positively correlated with Financial Literacy and negatively correlated with Discrimination, Stereotyping, Microaggressions, Implicit Bias, Structural Inequality, and Gender. The results are shown in figure 1. The correlation coefficient of 0.403307 between Entrepreneurial intention (EI) and Discrimination indicates a moderate positive correlation, suggesting that people who experience discrimination may be more likely to have an entrepreneurial intention. The correlation coefficient of -0.366529 between Entrepreneurial intention (EI) and Stereotyping suggests a weak negative correlation, indicating

that people who are subject to stereotyping may have a lower likelihood of having an entrepreneurial intention. The correlation coefficient of -0.427908 between Entrepreneurial intention (EI) and Microaggressions also suggests a weak negative correlation, indicating that people who experience microaggressions may have a lower likelihood of having an entrepreneurial intention. The correlation coefficient of -0.190261 between Entrepreneurial intention (EI) and Implicit Bias suggests a weak negative correlation, indicating that people who have implicit biases may have a slightly lower likelihood of having an entrepreneurial intention. The correlation coefficient of -0.246698 between Entrepreneurial intention (EI) and Structural Inequality suggests a weak negative correlation, indicating that people who face structural inequalities may have a lower likelihood of having an entrepreneurial intention. The correlation coefficient of 0.375961 between Entrepreneurial intention (EI) and Financial Literacy suggests a weak positive correlation, indicating that people with higher financial literacy may have a slightly higher likelihood of having an entrepreneurial intention. The correlation coefficient of 0.048520 between Entrepreneurial intention (EI) and Gender suggests a weak positive correlation, indicating that being female is slightly associated with having a higher likelihood of having an entrepreneurial intention. However, the correlation is very weak and should be interpreted with caution.

In the context of machine learning, the accuracy score is often used to evaluate the performance of a model. In this case, the K-nearest neighbors (KNN) model achieved an accuracy score of 0.85, while the support vector machine (SVM) model achieved an accuracy score of 0.79. An accuracy score of 0.85 for the KNN model means that 85% of the test data was classified correctly by the model. Similarly, an accuracy score of 0.79 for the SVM model means that 79% of the test data was classified correctly by the model. It is worth noting that while the KNN model achieved a higher accuracy score than the SVM model. The logistic classifier achieved an accuracy score of 0.86. An accuracy score of 0.72 for the logistic classifier means that 72% of the test data was classified correctly by the model, while an accuracy score of 0.86 for the random forest classifier means that 86% of the test data was classified correctly.

Racial discrimination can have a significant negative impact on the entrepreneurial intention of individuals, particularly those from underrepresented groups. To decrease the negative impact of racial discrimination on entrepreneurial intention, it is essential to provide access to resources and support that can help to level the playing field. This includes access to funding, mentorship, and networking opportunities that can help individuals from underrepresented groups to develop the skills and knowledge necessary to start and grow their own businesses. By providing these resources and support, individuals from underrepresented groups can gain greater access to the knowledge, skills, and networks needed to succeed as entrepreneurs.

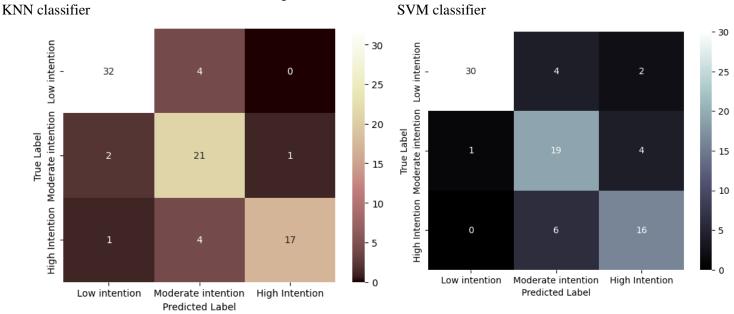
Another way to decrease the negative impact of racial discrimination on entrepreneurial intention is to promote diversity and inclusion in the entrepreneurial ecosystem. This can be done by encouraging more diverse representation in the leadership and decision-making positions of organizations that support entrepreneurship, such as incubators, accelerators, and venture capital firms. By promoting diversity and inclusion, these organizations can help to ensure that individuals from underrepresented groups have a fair chance to access resources and support, and that their unique perspectives and experiences are valued and integrated into the entrepreneurial ecosystem. Additionally, promoting diversity and inclusion can help to create a more welcoming and supportive environment for all entrepreneurs, regardless of their race or ethnicity, which can in turn increase the overall success of the entrepreneurial ecosystem.



#### Figure 1. Correlation heatmap

Racial stereotyping can have a significant negative impact on the entrepreneurial intention of individuals, particularly those from underrepresented groups. To decrease the negative impact of racial stereotyping on entrepreneurial intention, it is important to promote a more accurate and diverse representation of entrepreneurs in media and popular culture. This can be done by highlighting the stories and successes of entrepreneurs from a range of racial and ethnic backgrounds, as well as providing more exposure to diverse perspectives and experiences in the entrepreneurial ecosystem. By promoting a more accurate and diverse representation of entrepreneurs, we can challenge and dismantle racial stereotypes and create a more inclusive and supportive environment for all entrepreneurs.

**Jaww** 



## Figure 2. KNN and SVM methods SVM classifier

Figure 3. Logistic and Random forest Random forest classifier

30

25

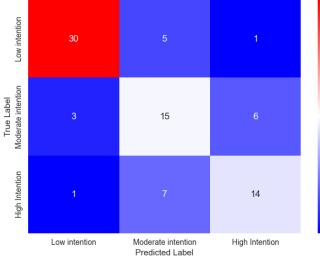
20

15

10

5





35 Low intention 36 30 25 True Label Moderate intention 20 23 15 10 High Intention 22 5 0 Moderate intention Low intention High Intention Predicted Label

KNN					SVM				
	precision	recall f1	-score su	upport	-	precision	recall	f1-score	support
0	0.91	0.89	0.90	36	0	0.97	0.83	0.90	36
0 1 2	0.72	0.88	0.79	24	1	0.66	0.79	0.72	24
2	0.94	0.77	0.85	22	2	0.73	0.73	0.73	22
accuracy			0.85	82					
macro avg	0.86	0.85	0.85	82 82	accuracy			0.79	82
weighted avg	0.87	0.85	0.86	82	macro avg	0.78	0.78	0.78	82
					weighted avg	0.81	0.79	0.80	82
Logistic	precision	recall	f1-score	support	Random fo	precision	recall	f1-score	support
	0 0.88	0.83	0.86	36	0	0.97	1.00	0.99	36
	0 0.88 1 0.56 2 0.67	0.62	0.59	24	1	1.00	0.96	0.98	24
	2 0.67	0.64	0.65	22	1 2	1.00	1.00	1.00	22
accurac	V		0.72	82	accuracy			0.99	82
macro av		0.70	0.70	82	macro avg	0.99	0.99	0.99	82
weighted av			0.72	82	weighted avg	0.99	0.99	0.99	82
	s 0./J	0.12	0.72	02	0				

Table 2. Performance metrices

Another way to decrease the negative impact of racial stereotyping on entrepreneurial intention is to provide education and training that can help individuals from underrepresented groups to recognize and challenge racial stereotypes. This can include training in critical thinking and media literacy, as well as education on the harmful effects of racial stereotyping on both individuals and society as a whole. By providing education and training, individuals from underrepresented groups can develop the skills and knowledge necessary to recognize and challenge racial stereotypes, and can gain greater confidence and resilience in the face of these challenges. Additionally, education and training can help to promote a more inclusive and supportive environment for all entrepreneurs, and can contribute to the overall success of the entrepreneurial ecosystem.

Microaggressions are subtle and often unintentional forms of discrimination that can have a significant negative impact on the entrepreneurial intention of individuals, particularly those from underrepresented groups. To decrease the negative impact of microaggressions on entrepreneurial intention, it is important to provide education and training to help individuals recognize and address these forms of discrimination. This can include training in active listening, effective communication, and cultural competency, as well as education on the harmful effects of microaggressions on both individuals and society as a whole. By providing education and training, individuals from underrepresented groups can develop the skills and knowledge necessary to recognize and address microaggressions, and can gain greater confidence and resilience in the face of these challenges.

Another way to decrease the negative impact of microaggressions on entrepreneurial intention is to promote a more inclusive and supportive environment in the entrepreneurial ecosystem. This can be done by encouraging open and honest communication, providing access to diverse perspectives and experiences, and promoting a culture of respect and inclusivity. By promoting a more inclusive and supportive environment, individuals from underrepresented groups can feel more comfortable and supported in the entrepreneurial ecosystem, and can develop greater confidence in their abilities as entrepreneurs. Additionally, promoting a more inclusive and supportive environment can help to attract and retain a more diverse range of entrepreneurs, which can contribute to the overall success and innovation of the entrepreneurial ecosystem.

Implicit racial bias is a form of unconscious discrimination that can have a significant negative impact on the entrepreneurial intention of individuals, particularly those from underrepresented groups. To decrease the negative impact of implicit racial bias on entrepreneurial intention, it is important to promote awareness and education about the impact of implicit bias on decision-making processes. This can include training in recognizing and mitigating implicit bias, as well as education on the ways in which implicit bias can negatively impact the experiences and opportunities of individuals from underrepresented groups.

By promoting awareness and education, individuals can become more mindful of their own biases and can develop strategies to counteract them, leading to a more inclusive and equitable entrepreneurial ecosystem. Another way to decrease the negative impact of implicit racial bias on entrepreneurial intention is to promote diversity and inclusion in decision-making processes. This can be done by encouraging more diverse representation in leadership positions and decision-making bodies within the entrepreneurial ecosystem, such as incubators, accelerators, and venture capital firms. By promoting diversity and inclusion, decision-makers can benefit from a wider range of perspectives and experiences, which can help to counteract the negative effects of implicit bias. Additionally, promoting diversity and inclusion can help to create a more welcoming and supportive environment for all entrepreneurs, regardless of their race or ethnicity, which can in turn increase the overall success and innovation of the entrepreneurial ecosystem.

Structural inequality can have a significant negative impact on the entrepreneurial intention of individuals, particularly those from underrepresented groups who may face barriers to accessing resources and support. To decrease the negative impact of structural inequality on entrepreneurial intention, it is important to address the root causes of inequality and work to dismantle the systems that create and perpetuate it. This can include promoting policies and practices that address income and wealth inequality, providing access to education and training, and addressing systemic issues such as discrimination and bias in employment and entrepreneurship. By addressing the root causes of structural inequality, it is possible to create a more equitable and supportive environment for all entrepreneurs, and help to ensure that individuals from underrepresented groups have equal access to resources and opportunities.

Another way to decrease the negative impact of structural inequality on entrepreneurial intention is to promote greater access to resources and support for individuals from underrepresented groups. This can include providing funding, mentorship, and networking opportunities, as well as creating programs that specifically target underrepresented groups and help to level the playing field. By providing greater access to resources and support, individuals from underrepresented groups can gain the knowledge, skills, and networks necessary to succeed as entrepreneurs, and can overcome the barriers created by structural inequality. Additionally, promoting greater access to resources and support can help to create a more diverse and innovative entrepreneurial ecosystem, which can benefit society as a whole.

Increasing financial literacy can be an effective way to raise entrepreneurial intention, particularly among individuals who may be hesitant to start their own businesses due to a lack of understanding about financial management. To increase financial literacy and raise entrepreneurial intention, it is important to provide education and training on basic financial concepts, such as budgeting, cash flow management, and investment strategies. This can include providing workshops, online courses, and one-on-one counseling to help individuals

understand and manage their finances more effectively. By increasing financial literacy, individuals can become more confident and empowered to start their own businesses and make sound financial decisions.

Another way to increase financial literacy and raise entrepreneurial intention is to provide access to resources and support that can help individuals navigate the financial challenges of entrepreneurship. This can include providing access to affordable financial services, such as loans and grants, as well as connecting individuals with financial advisors, mentors, and peer networks. By providing access to resources and support, individuals can gain the knowledge, skills, and networks necessary to succeed as entrepreneurs and effectively manage the financial aspects of their businesses. Additionally, promoting greater financial literacy and access to resources can help to create a more inclusive and equitable entrepreneurial ecosystem.

Gender discrimination is a significant barrier to entrepreneurial intention among females, as it can limit their access to resources, support, and opportunities. To combat gender discrimination and increase entrepreneurial intention among females, it is important to promote policies and practices that address the root causes of discrimination and create a more equitable and inclusive entrepreneurial ecosystem. This can include promoting greater diversity and inclusion in decision-making processes, providing access to funding and mentorship opportunities, and addressing issues such as the gender pay gap and lack of representation in leadership positions. By creating a more inclusive and equitable entrepreneurial ecosystem, females can overcome the barriers created by gender discrimination and achieve greater success as entrepreneurs.

Another way to combat gender discrimination and increase entrepreneurial intention among females is to provide education and training on the skills and knowledge necessary to start and grow successful businesses. This can include providing workshops and courses on topics such as business planning, marketing, and financial management, as well as offering one-on-one counseling and mentoring. By providing greater access to education and training, females can gain the knowledge and skills necessary to succeed as entrepreneurs and become more confident and empowered to start their own businesses.

#### Conclusion

Racial bias and discrimination continue to be major issues across many societies. The negative effects of racial bias are manifold, leading to unequal access to opportunities, lower socioeconomic mobility, and reduced quality of life for those affected. As such, the role of government policies in combating racial bias experiences cannot be overstated. One key way in which government policies can combat racial bias is through education. In many cases, individuals who display racial biases do so out of ignorance or a lack of exposure to diverse cultures and experiences. Government policies can promote diversity education and training in schools, workplaces, and communities, providing individuals with the necessary tools to recognize and challenge their own biases. Diverse teams outperform homogenous ones in terms of creativity, problem-solving, and innovation. Government policies that promote equal opportunity in hiring, compensation, and promotions, can help to level the playing field for individuals from marginalized groups.

Government policies can also combat racial bias by reforming the criminal justice system. Research has shown that people of color are disproportionately represented in the criminal justice system, both as victims and perpetrators. Government policies that promote police reform, reduce mass incarceration, and focus on rehabilitation, can help to reduce the impact of systemic racism on communities of color. Moreover, government policies can also combat racial bias by promoting equal access to healthcare. People of color often face health disparities, with higher rates of chronic illnesses, lower life expectancies, and reduced access to quality healthcare. Government policies that promote healthcare equity, such as expanding access to Medicaid or increasing funding for community health clinics, can help to address these disparities.

Segregation and housing discrimination continue to be major issues in many societies, leading to unequal access to safe and affordable housing. Government policies that promote fair housing practices, such as enforcing anti-discrimination laws, providing subsidies for low-income housing, and investing in urban renewal, can help to reduce the impact of housing discrimination on marginalized communities. Government policies play a critical role in combatting racial bias experiences. Through education, workplace diversity and inclusion, criminal justice reform, healthcare equity, and housing equity, governments can promote a more just and equitable society for all individuals. While these policies alone may not solve the problem of racial bias, they represent an important step towards greater understanding, respect, and inclusivity.

Entrepreneurship is a powerful engine for economic growth and innovation. However, many marginalized communities face significant barriers to entry in the entrepreneurial ecosystem. A more inclusive and diverse entrepreneurial ecosystem can help to unlock the full potential of all individuals, regardless of their background. Firstly, government policies can help to promote entrepreneurship by providing access to capital. One of the biggest barriers to entry for marginalized communities is lack of access to financing. Government policies such as targeted grants, loan programs, and tax incentives can help to level the playing field for individuals from underrepresented groups. Secondly, mentorship and networking programs can help to promote a more inclusive and diverse entrepreneurial ecosystem. Mentorship programs can help to connect entrepreneurs with experienced professionals who can provide guidance and support. Networking events can help to create opportunities for entrepreneurs to connect with potential partners, investors, and customers. Thirdly, educational and training programs can help to promote a more inclusive and diverse entrepreneurial ecosystem. Entrepreneurship education programs can help to provide individuals with the necessary skills and knowledge to launch and grow a successful business. Training programs can help to provide specialized knowledge in areas such as technology, marketing, and finance.

Moreover, inclusive policies and practices within the startup community can help to create a more diverse and welcoming environment for entrepreneurs. This can include policies such as flexible work arrangements, maternity and paternity leave, and equal pay for equal work. It can also include practices such as diversity and inclusion training, bias training, and the creation of safe and inclusive spaces. Partnerships and collaborations can help to promote a more inclusive and diverse entrepreneurial ecosystem. Collaboration between entrepreneurs, investors, and government agencies can help to create a more interconnected ecosystem that benefits everyone. Partnerships between different industries and sectors can also help to create new opportunities for innovation and growth.

A more inclusive and diverse entrepreneurial ecosystem can help to unlock the full potential of all individuals, regardless of their background. Through policies and steps such as access to capital, mentorship and networking programs, educational and training programs, inclusive policies and practices, and partnerships and collaborations, it is easy to promote a more just and equitable society for all entrepreneurs. While these policies alone may not solve the problem of inequity in entrepreneurship, they represent an important step towards greater understanding, respect, and inclusivity.



#### References

- A. M. F. do Paço, J. M. Ferreira, M. Raposo, R. G. Rodrigues, and A. Dinis, "Behaviours and entrepreneurial intention: Empirical findings about secondary students," *J. Int. Entrepreneurship*, vol. 9, no. 1, pp. 20–38, Mar. 2011.
- [2] N. Ozaralli and N. K. Rivenburgh, "Entrepreneurial intention: antecedents to entrepreneurial behavior in the U.S.A. and Turkey," *J. Glob. Entrep.*. *Res.*, vol. 6, no. 1, Dec. 2016.
- [3] S. Kristiansen and N. Indarti, "ENTREPRENEURIAL INTENTION AMONG INDONESIAN AND NORWEGIAN STUDENTS," J. Enterprising Culture, vol. 12, no. 01, pp. 55–78, Mar. 2004.
- [4] F. Liñán and Y.-W. Chen, "Testing the entrepreneurial intention model on a two-country sample," p. 60716, 2006.
- [5] J. J. Ferreira, M. L. Raposo, G. R. Ricardo, A. Dinis, and do P. Arminda, "A model of entrepreneurial intention: An application of the psychological and behavioral approaches," *Journal of Small Business and Enterprise Development*, vol. 19, no. 3, pp. 424–440, Jan. 2012.
- [6] M. Obschonka, R. K. Silbereisen, and E. Schmitt-Rodermund, "Entrepreneurial intention as developmental outcome," *J. Vocat. Behav.*, vol. 77, no. 1, pp. 63–72, Aug. 2010.
- [7] D. Turker and S. S. Senem, "Which factors affect entrepreneurial intention of university students?," *Journal of European Industrial Training*, vol. 33, no. 2, pp. 142–159, Jan. 2009.
- [8] F. Liñán, J. C. Rodríguez-Cohard, and J. M. Rueda-Cantuche, "Factors affecting entrepreneurial intention levels: a role for education," *International Entrepreneurship and Management Journal*, vol. 7, no. 2, pp. 195–218, Jun. 2011.
- [9] M. C. Díaz-García and J. Jiménez-Moreno, "Entrepreneurial intention: the role of gender," *International Entrepreneurship and Management Journal*, vol. 6, no. 3, pp. 261–283, Sep. 2010.
- [10] J. Salah, "A note on the modified Caputo's fractional calculus derivative operator," Far East J. Math. Sci., vol. 100, no. 4, pp. 609–615, Sep. 2016.
- [11] J. A. Moriano, M. Gorgievski, M. Laguna, U. Stephan, and K. Zarafshani, "A Cross-Cultural Approach to Understanding Entrepreneurial Intention," *J. Career Dev.*, vol. 39, no. 2, pp. 162–185, Apr. 2012.
- [12] P. Younkin and V. Kuppuswamy, "The Colorblind Crowd? Founder Race and Performance in Crowdfunding," *Manage. Sci.*, vol. 64, no. 7, pp. 3269–3287, Jul. 2018.
- [13] Z. Valdez, *The new entrepreneurs: How race, class, and gender shape American enterprise*. Palo Alto, CA: Stanford University Press, 2011.
- [14] A. S. Rosette, G. J. Leonardelli, and K. W. Phillips, "The White standard: racial bias in leader categorization," J. Appl. Psychol., vol. 93, no. 4, pp. 758–777, Jul. 2008.
- [15] P. Köllinger and M. Minniti, "Not for Lack of Trying: American Entrepreneurship in Black and White," Small Bus. Econ., vol. 27, no. 1, pp. 59–79, Aug. 2006.
- [16] A. K. Chatterji and R. C. Seamans, "Entrepreneurial finance, credit cards, and race," J. financ. econ., vol. 106, no. 1, pp. 182–195, Oct. 2012.
- [17] L. Huang, M. Frideger, and J. L. Pearce, "Political skill: explaining the effects of nonnative accent on managerial hiring and entrepreneurial investment decisions," J. Appl. Psychol., vol. 98, no. 6, pp. 1005–1017, Nov. 2013.
- [18] M. Karides, "Whose solution is it? development ideology and the work of microentrepreneurs in Caribbean context," *Int. J. Sociol. Soc. Policy*, vol. 25, no. 1/2, pp. 30– 62, Jan. 2005.
- [19] L. Blanchard, B. Zhao, and J. Yinger, "Do lenders discriminate against minority and woman entrepreneurs?," *J. Urban Econ.*, vol. 63, no. 2, pp. 467–497, Mar. 2008.

- [20] J. O. Ogbor, "Mythicizing and reification in entrepreneurial discourse: Ideology-critique of entrepreneurial studies," *J. Manag. Stud.*, vol. 37, no. 5, pp. 605–635, Jul. 2000.
- [21] J. Y. Salah, "A note on the Hurwitz zeta function," 2017.
- [22] D. A. Shepherd and H. Patzelt, "Harsh evaluations of entrepreneurs who fail: The role of sexual orientation, use of environmentally friendly technologies, and observers' perspective taking," J. Manag. Stud., vol. 52, no. 2, pp. 253–284, Mar. 2015.
- [23] H. U. Rehman, M. Darus, and J. Salah, "A note on Caputo's derivative operator interpretation in economy," *J. Appl. Math.*, 2018.
- [24] C. de Bassa Scheresberg, "Financial literacy and financial behavior among young adults: Evidence and implications," *Numeracy*, vol. 6, no. 2, Jul. 2013.
- [25] A. Lusardi and O. S. Mitchell, "Financial Literacy and Planning: Implications for Retirement Wellbeing," National Bureau of Economic Research, May-2011.
- [26] A. J. Murphy, "Money, money, money: an exploratory study on the financial literacy of Black college students," *Coll. Stud. J.*, vol. 39, p. 478+, Sep. 2005.
- [27] W. A. Reese and M. S. Weisbach, "Protection of minority shareholder interests, crosslistings in the United States, and subsequent equity offerings," *J. financ. econ.*, vol. 66, no. 1, pp. 65–104, Oct. 2002.
- [28] D. A. Carter, F. D'Souza, B. J. Simkins, and W. G. Simpson, "The gender and ethnic diversity of US boards and board committees and firm financial performance," *Corp. Gov. Int. Rev.*, vol. 18, no. 5, pp. 396–414, Sep. 2010.
- [29] G. Mottola, "In our best interest: Women, financial literacy, and credit card behavior," *Numeracy*, vol. 6, no. 2, Jul. 2013.