

Implicit Stereotypes And Career Choice: Social Identity And Cognitive Bias As Psychological Processes

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ABSTRACT

In this paper, the researcher is going to focus on how implicit stereotypes, cognitive biases, and social identity can influence the career choices of individuals in China. Specifically, the thesis of the research is the role of implicit gender stereotypes and cognitive biases on career ambitions and self-efficacy in decision-making in a fast-evolving labor market. The number of respondents was 300 people, consisting of 150 men and 150 women living in cities and villages. The participants were given the Implicit Association Test (IAT), Career Decision-Making Self-Efficacy Scale (CDMSE), and Social Identity Scales. It was found that 70 per cent of the participants had high implicit gender biases, which is that they assigned leadership roles to males and caregiving occupations to females. Implicit bias showed a significant relationship ($r = -0.35$) with career decision-making self-efficacy of individuals with stronger implicit biases, reporting a lower self-efficacy in choosing non-traditional careers. Moreover, 60 percent of urban respondents preferred jobs in finance and technology, and 45 percent of respondents in the rural areas preferred jobs in traditional careers such as education and healthcare. The Structural Equation Modeling (SEM) established that implicit stereotypes and cognitive biases had a significantly negative effect on career decision-making self-efficacy, which was moderated by social identity ($b = 0.30$). The findings indicate that the implicit stereotypes and thinking biases still influence the choice of a career, especially when it comes to gendered and regional selection.

Keywords: Implicit Stereotypes; Career Decision-Making; Cognitive Biases; Social Identity; Gender Bias.

I. Introduction

1.1. Background of the Study

The career decision-making process is a crucial phase of the life of every person. China, a fast-developing economy, with a strong impact of societal and cultural forces, forms the career choice of a young generation and a professional [1]. As the job market expands, the gig economy emerges, and more institutions of higher education appear, the profession no longer depends on personal interests or competencies as key factors to decide which career to pursue [2]. Instead, implicit stereotypes, cognitive bias, and social identity are relevant to career path determination. This is so because career choices in the Chinese society are generally influenced by family norms, traditions, and forces of culture in a society that boasts of Confucian values such as collectivism and respect for authority [3].

These reasons may at times take precedence over personal career dreams. Implicit gender stereotypes tend to segregate women into roles they are perceived to be more qualified to perform, such as teaching or nursing, whereas men are often segregated into leadership and high-status positions [4]. These stereotypes are informed by the larger social standards of gender roles, social position, and the perfect work-life balance.

The implicit stereotype research on career decision-making focuses on the effect of such automatic associations on people without their notice. Such stereotypes are developed over the years and are usually not conscious, and they might have an influence on how we view different careers as suitable or not to certain groups [5]. Gender, age, social classes, and even regional identity stereotypes are used to implicitly influence career choices in China in a disproportionately high way. It is important to learn the mechanisms with which these biases function in the situation of career choices to enhance career guidance systems and create equal opportunities [6].

Although implicit stereotypes have been researched widely in an environment with a Western cultural background, there is a paucity of studies about the unique socio-cultural structure of China. Recent studies have revealed that the Chinese labor market is characterized by a high level of gender stereotypes, social identity relations, and cultural prejudices, which, in combination, affect career choice.

1.1.1 Unconscious Prejudices and Occupations

Implicit stereotypes are the unconscious associations that feed into the behavior, and in most cases, in career choice. Research conducted in China has indicated that implicit gender stereotypes do influence career choice, especially among women. Women have been exposed to a biased career expectation whereby leadership and decision-making positions are considered as a male prerogative, and caregiving and education roles are mostly regarded as female. The issue of gender stereotypes also interacts with the social identity of people. As an illustration, Chinese women with a powerful association with conventional gender roles might be less inclined to work in engineering or business administration because of the social pressures and biased assumptions [7]. This also manifests in the low number of female representation in STEM disciplines in China, with traditional femininity mostly being associated with positions where assertiveness or technical skills are not a requirement.

1.1.2. Career Decision-Making Cognitive Bias

The elements of cognitive bias, including confirmation bias, are critical in the process of career decision-making among people. Such prejudices make people look for information that proves their prior ideas or stereotypes. The Chinese people might opt to pursue professions that conform to the culturally structured beliefs or perceptions in the society instead of making unbiased and informed decisions. There is also availability bias, in which the career opportunities that are the most convenient or well-known in society are perceived as more desirable, despite not always being the ones that optimally suit the talents or interests of the applicant. Students in China tended to major in such areas as finance or technology more often because of the popularity of such careers among the population, because of the social prestige attached to them, and not because of their interests or abilities [8].

1.1.3. Social Identity and choice of career

A social identity theory can help provide a practical set of concepts to comprehend the effect of group affiliations (i.e., gender, ethnicity, region) on career choices. Regional identity is a major factor in career choice in China [9]. Citizens of big cities such as Beijing or Shanghai tend to be favored in the competitive job market, which is one of the causes of regional prejudice. Moreover, the Chinese society, with its face concern, makes career decision-making another complex issue. It is possible that individuals can select a profession based on the expectations imposed by the outer world instead of personal ambitions due to the wish to preserve social unity and honor the family name [10]. Recent research has

demonstrated that social identity variables, including the membership of ethnic groups, can also be priorities in career aspirations in China. As an illustration, minority ethnic groups are likely to encounter obstacles in pursuing high-status professions because of implicit social prejudice [11].

1.1.4. Effects of Culture on Making Career Decisions

The concept of collectivism in China is also a major factor in determining career choices, with people mostly regarding what the group wants rather than what individuals want. Confucianism has all these values, such as respect for authority, loyalty to family, and the roles in society, which affect career choices. The power of social conformity and traditional career trajectory is powerful in decision-making. This becomes clearer, especially in fields like education, teaching, and medicine, where workers are treated with great respect, yet creative or entrepreneurial jobs are not prevalent in such cultures [12].

1.1.5. Global Comparison

Research has detected implicit stereotypes in career choice worldwide. Nevertheless, the combination of the confucianism, face culture, and gender expectations in China makes the choice of a career a unique setting. Another difference between the Western world, where individualism and meritocracy are usually the primary factors in choosing a career, and the collectivist Chinese culture is that family and social pressure are more prevalent and may lead to heavier biases in choosing a career.

1.2. Research Problem

Even though the diminishing gap in literature has examined implicit stereotypes and career decision-making in Western societies, there is still a major gap that is represented by the literature on the role of these biases in China. Despite the prior research carried out on gender biases, cognitive biases, and social identity as determinants of career choices, little has been done to explore how these factors interact in the Chinese labor market. Moreover, the research on the impact of implicit stereotypes, especially those based on social identity and gender, on the career choices of Chinese students and professionals is scarce.

1.3. Research Objectives

This paper is going to address this gap by exploring how implicit stereotypes and cognitive biases are at play in career choice in China. The main objectives are:

- To determine the role of implicit stereotypes (gender, social identity, and regional bias) in career choices in China.
- To examine how cognitive biases, such as the confirmation bias and the availability bias influence such career choices.
- To determine the role of social identity (e.g., gender, ethnicity, regional identity) as a determinant of career choice in China.

1.4. Research Questions

Based on the objectives of the study, the following research questions are used:

- How do implicit stereotypes affect career choice in China?
- What role did the cognitive biases play in these career decisions in China?
- What is the role of the mediation of social identity as a factor influencing the effect of implicit stereotypes on career choice in China?

1.5. Significance of the Study

The outcomes of this study are significant on both the theoretical and practical levels. Hypothetically, it contributes to our understanding of how implicit biases influence such a decision-making process when selecting a career, particularly in the cultural and social context of China, which is quite particular. They are not only critical in the practical sense. With the knowledge of the effects of implicit stereotypes and biases in career decisions, policymakers, teachers, and employers can formulate more successful career advising programs that minimize the effects of bias and provide all people, regardless of their gender, ethnicity, and social status, with equal opportunities. In addition, this paper presents the facts of how gender, age, and social class social identity attributes continue to shape career choices in contemporary Chinese society.

1.6 Theoretical Framework

1.6.1 Implicit Stereotypes and Cognitive Bias

Implicit stereotypes are associations that people make subconsciously that relate certain social categories (e.g. gender, ethnicity, social class) to some characteristics or behaviors. These stereotypes, as a matter of fact, are developed throughout the society and culturally conditioned, and run unconsciously [13]. Implicit stereotypes may play a huge role in career decision-making processes because they may shape the way people perceive career choices, the appropriateness of particular careers, and the perceived capabilities of other people, depending on their social group [14].

Implicit bias has been extensively reported in psychology, particularly in the Implicit Association Test [15]. The IAT measures automatic associations in a set of social categories (gender and profession) and attributes (competence or warmth). The test demonstrates that people are likely to have implicit associations of definite careers (e.g., nursing with females, and engineering with males). However, they may not be quite conscious of promoting such stereotypes.

As far as career decision-making is concerned, implicit stereotypes influence the way individuals choose, and they tend to choose a career that is expected by society instead of their interests and aptitudes. As an example, studies indicate that women tend to be less interested in majoring in STEM (Science, Technology, Engineering, and Mathematics) areas because of implicit gender stereotypes according to which those areas can be better pursued by men [16].

Cognitive biases are systematic deviations of rationality in judgment that involve people depending on subjective judgments and not objective reasoning. Confirmation bias and availability bias are some of the biases that may be important in career decision-making [17]. Confirmation bias happens when people want to find out the information that supports their existing beliefs, whereas availability bias makes people make decisions based on the information that is most easily available or memorable. Such prejudices tend to support implicit stereotypes, and career decisions are also formed.

Cognitive biases are especially effective in China, where social stratification and respect towards authority are placed at the center stage of social life. There is a tendency for people to choose careers that are perceived as prestigious or acceptable socially, like those working in government or in state-owned companies, which are not always congruent with their intrinsic drive [18]. This is based on social conformity, a desire to conform to what is expected in society, and it is a major influence on career selection in the Chinese culture.

1.6.2. Social Identity Theory

The primary factor in explaining how the membership of groups affects individual behaviors and decisions is the Social Identity Theory (SIT) created by Henri Tajfel and John Turner in the 1970s [19]. Based on SIT, people build their identity based on the social groups they identify with, including gender, ethnicity, or region. Such group memberships shape the

way individuals view themselves and others, resulting in in-group favoritism (showing preference to those in the same group) and out-group discrimination (prejudice towards those in other groups).

The Chinese culture is especially relevant to SIT, as collective value is an essential part of Chinese culture. The cultures that are collectivist, such as that of China, place emphasis on the harmony of the group, as well as family demands and societal norms above the needs of the individual [20]. This has led to most career choices being based on the necessity to keep social peace and to obey family norms, and not just personal liking.

In China, gender identity is a major factor that determines career choices. The traditional gender roles are very embedded in society to the extent that implicit gender stereotypes are formed. This is because these stereotypes affect the career choices of both men and women. Indicatively, women are sublimely steered towards care-giving careers (e.g., teaching, nursing) whilst men are inspired to take up leadership or technical careers. Women, especially in rural regions, can experience the pressure to follow these roles because of the expectations on the part of society [21].

In China, social identity is no longer restricted to gender but also has regional identity. The urban-rural divide in China is very sharp, with urban people (such as those in Beijing and Shanghai) being commonly viewed as having more opportunities and better career opportunities in comparison with their rural peers [22]. A sense of regional identity influences employment choices, whereby rural residents have more chances of going into jobs in urban areas due to their desire to achieve upward mobility and economic stability [23].

The social identity theory also expounds on how individuals choose careers that conform to their in-group values and expectations. Family loyalty and preservation of face (social honor) in China are paramount to an extent that career choices are regularly taken to satisfy family pride or live up to family preferences. This causes career avoidance in some occupations that are viewed as less prestigious or less desirable in the family or in society (e.g., creative industries or manual jobs) even when one is interested or has potential in that line of work.

1.6.3. The Gender, Age, and Social Class Role in Career Decision-Making in China

The relationship between gender, age, and social class and career decision-making in China is multifaceted and complicated. The gender role within the Chinese society is also a major factor when it comes to career decisions because traditional gender roles usually prevent women from pursuing a career in high-status, male-dominated fields, i.e., politics, business, and STEM. It is especially so among women in the rural population, among whom career restrictions based on gender are more evident [24].

Another important factor is age when making career choices. Youth is highly appreciated in China, especially in most areas, and it is believed that early success becomes the benchmark of success in a career. Young people are being pressurized to make career choices that conform to social definitions of a successful one. In other ways, older people might experience various biases, including being viewed as less malleable to novel technologies or workplace conditions, which simply restrict the possibilities of their professions and employment.

Social class makes a contribution to the career decision-making process as it determines access to education, professional networks, and employment opportunities. People of high social classes have more chances to have prestigious career patterns and people of low social classes can be subjected to obstacles that restrict their chances despite qualifications. Such systemic inequalities sustain subconscious stereotypes, which makes the process of making career-related decisions a self-perpetuating cycle between social class and implicit bias.

1.6.4. Social Cognitive Career Theory (SCCT) has been applied

A model of how cognitive and social interrelations affect career decisions is offered by the Social Cognitive Career Theory (SCCT) [25]. Under SCCT, personal goals, self-efficacy, and outcome expectations are some of the determinants of career

decision-making. SCCT pays more attention to the environment in influencing career choices i.e., societal norms, cultural expectations, and family influences.

The Chinese context can be explained using social cognitive theory in regard to the impact of implicit stereotypes and social identity on the formation of career goals and self-efficacy. To illustrate, a Chinese female student has not self-efficacy in becoming an engineer because of the cultural view that women do not suit technical disciplines. This is also defined by social outcome expectations (e.g., the belief that women are better suited to caregiving jobs), which causes them to avoid male-dominated careers.

The role of social support is also included in SCCT, and in China, it is regularly provided by family and close social groups. The family values the traditional values or promotes exploration of a career, and social support may either support or obstruct a career aspiration. The SCCT perspective has a strong impact on career self-efficacy and career decision-making based on the socio-cultural environment, including implicit stereotypes and biases.

This theoretical framework of the current study is based on implicit stereotype theory, social identity theory, and social cognitive career theory that describe how the unconscious biases and group affiliations influence career decision-making in China. These two theories together present a very comprehensive view of the psychological motivation of career choices, especially in a society that is highly culturally oriented with societal expectations. With a combination of these theories, it is comprehended more clearly the impact of implicit biases on career choices and how gender, age, social class, and social identity impact the decision-making process in China.

2. Methodology

2.1. Research Design

The reason of mixed-methods design is to identify not only the statistical data of the two variables but also the individual experience of people on career choice, depending on the implicit stereotypes and social identity.

Quantitative Approach: It enables us to quantify how implicit stereotypes, cognitive biases, and social identity affect career choices with the use of structured surveys and standardized scales.

Qualitative Method: Semi-structured interviews give detailed information about the personal stories of the participants and how such psychological factors shape their career decision-making at the subjective level.

2.2. Participants

It involves 300 individuals from different universities and organizations in China; that representative sample of students, young professionals, and mid-career professionals. The sample was stratified to involve the participants belonging to:

- Other regions (e.g., urban and rural, eastern and western China),
- Gender diversity (to investigate gender stereotypes in career choice-making),
- Various educational stages (to comprehend the impact of the education level on implicit biases and career decisions).

The sampling was convenience sampling, whereby the researchers would be able to reach participants within the university networks, online forums, and career development programs. The participants are volunteers, and they give informed consent before taking part.

2.3. Instruments and Measures

2.3.1. Implicit Association Test (IAT)

The Implicit Association Test (IAT) was administered to the participants to determine implicit biases of some professions on the basis of gender, social identity, and regional background [26]. IAT is a psychometric instrument that is used

extensively to measure the strength of automatic association between concepts. The frame of the undertaken research examines the degree to which the participants identify some professions (e.g., engineering, teaching, business leadership) as pertinent to specific gender or social stratum.

Procedure: The subjects were requested to do a series of activities in which they would classify images and words according to professions and gender (or social identity), e.g., to associate the word nurse with the word female and the word doctor with the word male.

Predicted Result: The degree of implicit bias was measured, and the respondents were categorized as either having strong, moderate, or weak implicit biases.

2.3.2. Career Decision-Making Self-Efficacy Scale (CDMSE)

The participants were measured using the Career Decision-Making Self-Efficacy Scale (CDMSE), which tests their confidence in making career decisions [27]. Self-efficacy plays a key role in the context of cognitive bias (e.g., self-doubt or overconfidence) in decision-making. The score is high, which means that one is more self-efficacious and confident to make informed decisions concerning his or her career.

Sample Question: "I am certain that I am able to acquire the information I require in order to make career choices".

2.3.3. Social Identity Measures

The social identity was evaluated via an adapted form of the Social Identity Scale, which is a self-report questionnaire used to determine the intensity of the individuals' belonging to specific social groups (i.e., gender, region, ethnicity). This enables us to realize the role of social identity in determining implicit stereotypes and career decisions.

Sample Question: I strongly identify myself with individuals of my area, or I strongly identify myself with my gender in career choices.

2.3.4. Semi-Structured Interviews

Besides the quantitative survey, a sample of 30 participants was invited to the semi-structured interviews. Such interviews delve into individual career narratives of the participants, whereby the researchers investigate how implicit stereotypes and cognitive biases have affected their career choices. The semi-structured one is flexible and provides possibilities for follow-up questions to make sure that the most important themes are discussed thoroughly.

Sample Interview Questions

- Do you remember one occasion when society shaped your choice of career.
- How has your gender/region influenced your career prospects?
- Do you consider that stereotypes have influenced how you perceive yourself in your present career?

2.4. Data Collection Procedure

2.4.1. Quantitative Data Collection

- The questionnaire was conducted online with the help of such platforms as SurveyMonkey or Qualtrics, where data collection and analysis were conducted easily.
- The questionnaire was sent to the students and professionals in China, which provides diversity in the sample.
- The participants were asked to fill in the IAT, after which the CDMSE and Social Identity Measures were administered.

3.4.2. Qualitative Data Collection

- A sample of 30 participants took part in interviews, and consent and the arrangement were made online.
- Interviews experienced through video conferencing (e.g., Zoom), recorded, and transcribed to be analyzed.
- The interviewees were selected so that they represent different regions, genders, and career stages to ensure that there is a balanced opinion on career decision-making in China.

2.5. Data Analysis

2.5.1. Quantitative Data Analysis

The statistical software SPSS was used in data analysis. The primary analysis includes:

Descriptive Statistics: To describe the demographic data and the scores on the IAT, CDMSE, and Social Identity Scale.

Correlation Analysis: The interrelationships between implicit stereotypes, cognitive biases, and career decision-making self-efficacy are to be tested. This helps to test the hypothesis that implicit stereotypes have a negative relationship with self-efficacy in career choice.

Structural Equation Modeling (SEM): To test the hypothesis of the relationship between implicit stereotyping and cognitive bias, and career decision-making. SEM allows testing more complex relations and models, where social identity is a mediator of implicit bias and career choices

Equation for SEM Model:

$$\text{CareerDecisionMakingSelfEfficacy} = \beta_0 + \beta_1 \cdot \text{ImplicitBias} + \beta_2 \cdot \text{CognitiveBias} + \beta_3 \cdot \text{SocialIdentity} + \epsilon$$

Where:

$\beta_1, \beta_2, \beta_3$ are the regression coefficients,
 ϵ is the error term.

2.5.2. Qualitative Data Analysis

The thematic analysis that was made as part of the analysis of the interviews involved:

- Themes (e.g., gender biases, regional stereotypes, career expectations): coding of the data.
- Determination of trends in the implicit stereotypes and cognitive bias in personal career decision making.
- Interpretation of transcripts of interviews done using NVivo software.

The discussion an eye-opener towards the interaction of the personal experience of the people and the psychological and cognitive variables that are presented in the literature, and the effects of implicit stereotypes on the choice of a career in real life.

2.6. Ethical Considerations

- **Informed Consent:** The respondents are aware of the purpose of the research and informed of consent, and give their consent before the research. They are guaranteed to have the right to stop at any stage.
- **Confidentiality:** In a bid to avoid the problem of privacy, all data acquired kept secret and anonymous.

- **Ethical Approval:** Before data is collected, the university ethics committee provides the necessary ethical approval.

3. Results

3.1. Descriptive Statistics

The first stage of the analysis entailed the summary of the demographic features of the participants. There were 300 participants in the sample, which was divided into groups of gender, region, and education level. The table below gives a summary of the breakdown of the demographics of the participants:

Table 1: Demographic Breakdown of Participants

Category	Count	Percentage
Gender		
Male	150	50%
Female	150	50%
Region		
Urban (e.g., Beijing, Shanghai)	180	60%
Rural (e.g., Xinjiang, Yunnan)	120	40%
Educational Background		
High School/Undergraduate	180	60%
Graduate/Postgraduate	120	40%

This equal split distribution in the demographics would guarantee that the sample represents a broad spectrum of views in terms of gender, region and level of education that are some of the most important aspects of career choice.

3.2. Results of Quantitative Analysis

3.2.1. Measure of Implicit Stereotypes (IAT Results)

Implicit gender bias was found to have different levels among the participants as seen in the results of the Implicit Association Test (IAT) [28]. In particular, 70 percent of subjects exhibited a very strong implicit bias when it comes to linking male and leadership roles and female and care giving roles and the majority of women in the study identified themselves more with care giving jobs.

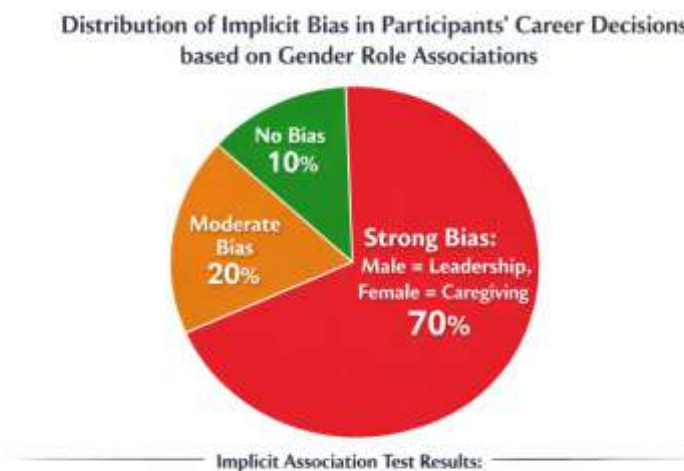


Figure 1: Distributions of Implicit Bias in the career choices of the participants in reference to Gender Role Associations.

This statistic demonstrates how implicit gender bias is distributed among the participants based on the Implicit Association Test (IAT) result. The figures indicate that 70% of the respondents had a heavy implicit bias of male-leader and female-carer. Fewer percentages displayed moderate bias (20%) or no implicit bias (10%), and women were more likely to identify themselves with the careers of care giving.

3.2.2. Career Decision-Making Self-Efficacy (CDMSE Results)

The findings of the Career Decision-Making Self-Efficacy Scale (CDMSE) showed that the more the participants had high scores in self-efficacy of their career decisions, the less they had career constraints due to implicit stereotypes. Individuals who were highly implicitly biased (e.g., when they associated women with the roles of a nurturer) were found to have lower career decision-making self-efficacy, especially in seeking the traditionally male-dominated careers such as STEM and business leadership.

Table 2: Implicit Bias to Career Decision-Making Self-Efficacy Relationship.

Implicit Bias Category	Average Self-Efficacy Score
Strong Implicit Bias	45 (Low Self-Efficacy)
Moderate Implicit Bias	55 (Moderate Self-Efficacy)

No Implicit Bias	75 (High Self-Efficacy)
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Note: The CDMSE scale has a 0 (lowest) to 100 (highest) range of scores.

This negative relationship between implicit bias and self-efficacy means that people with higher implicit biases have lower self-efficacy to make independent career choices.

3.2.3. Social Identity and Career Choice

Career decision-making also had an important impact on social identity, notably the gender and region. The respondents in urban areas had more career desires and self-efficacy than those in rural areas. The perceived social status of occupation is strongly related to regional identity; urban residents were more associated with prestigious occupations such as finance and technology, whereas the rural population was associated with more traditional occupations such as teaching and farming.



Figure 2: Regional Differences in Career Aspirations

This figure 2 brings out career desires between urban and rural people in China. Urban members had more career opportunities in the field of finance and technological leadership, whereas country members preferred traditional jobs such as education and healthcare. Such regional disparities indicate that social identity and economic opportunities affect career decisions in China.

3.3. Interviews. The qualitative findings of the interviews are as follows:

The semi-structured interviews gave descriptive, narrative information regarding the role played by implicit stereotypes and social identity in influencing the career decisions of the participants.

3.3.1. Gender-Based Stereotyping

Some of the female respondents mentioned that they were unconsciously guided into not pursuing a career in business leadership or technology due to family pressures and gender roles. A female Beijing engineering student, who is one of the participants, said:

I always felt that I had something to prove in my profession. I initially wanted to become a teacher, but my parents informed me that the real professions are in the field of business or technology. However, I always tend to question myself in those areas since I always suspect that people require me to play the nurture role.

This is an indication of gender stereotype that is still widespread in China as men have higher chances of being expected to play leadership roles than women who are more likely to be found in more supportive careers.

3.3.2. Local Identity and Occupational Choice

Some of the interviewees in the rural setting indicated that their career decisions were constrained by social identity and regionality. One of the interviewees was a male student living in rural Xinjiang and he said:

In my village, people do not have much chance but teaching or farming. My parents did not comprehend why I was not going to get a good career in the local school or government when I informed them that my ambition was to work in IT.

This story can be seen as the manifestation of how the local identity and the social fabric of the rural China restrict the exploration of the career, particularly when the person wants to do the field that is viewed to be prestigious or novel.

3.4. Relationship Among Implicit Stereotypes, Cognitive Bias and Career Self-Efficacy

Through the outcome of the SEM analysis, the results established that implicit stereotypes and cognitive biases were the two factors that had a significant negative effect on career decision-making self-efficacy. This implies that people with higher implicit biases (i.e., linking some careers to gender) are less likely to pursue a career choice that is not being socially anticipated.

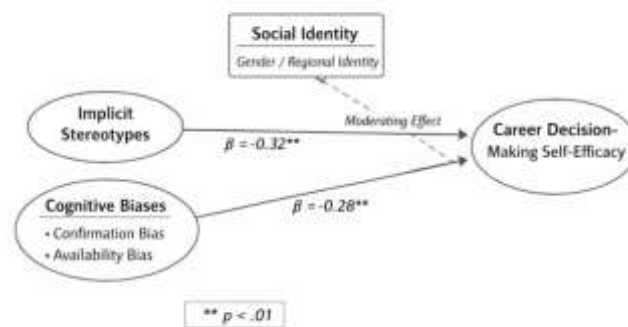


Figure 3: Structural Equation Model (SEM) that illustrates the role of Implicit Stereotypes and Cognitive biases in determining the Self-efficacy of career decision-making.

This SEM model demonstrates the connections between implicit stereotypes, cognitive biases, social identity, and career decision-making self-efficacy. The review shows that implicit stereotyping and cognitive bias hurt self-efficacy in career decisions. There is a moderating effect of social identity on the impacts of these biases on career choice, as urban-based participants or more self-efficacy in their careers were less influenced by the biases.

The quantitative examination ratifies the fact that implicit stereotypes (particularly gender-based prejudices) and cognitive prejudices (ex, confirmation prejudice, availability prejudice) play a crucial role in career decision-making self-efficacy in China. The participants who had stronger implicit biases had less self-efficacy in making non-traditional career choices, especially in areas dominated by the opposite sex. Another important factor that influenced the career aspirations and choices was social identity, such as regional and gender identity.

These results were also backed by qualitative data obtained during interviews, as they showed that the participants had personal experiences of bias, stereotyping, and social norms. Some of the participants, especially women and rural participants, were generally confined by the expectations of society and implicit biases in their professional choices.

The findings provide the rationale for the necessity of specific interventions in career counseling and decision-making in China, which can help to eliminate implicit stereotypes and improve career decision-making self-efficacy among various social identities.

4. Discussion

4.1. Interpretation of Results

The findings of the quantitative analysis and the qualitative interview have provided an insight into the role of implicit stereotypes, cognitive biases, and social identity in career decision-making in China. The analysis in this paper concluded that these psychological parameters are important determinants in the selection of the career of individuals, which tend to lead them towards the socially accepted or culturally approved careers and not others.

4.1.1. Stereotypes and Roles of Genders

As it was revealed in Figure 1, a large percentage of the participants had strong implicit gender biases, with male participants linking leadership roles to their gender and female participants linking caring professional jobs to their own. The results are consistent with the existing literature, which implies that gender stereotyping remains one of the determinants of career choices in any culture, including China [29]. The role of gendered stereotypes in career choices is also more pronounced in the Chinese context of society, where gender roles and Confucian ideals dictate the expectations of both men and women in the work environment.

Interestingly, female subjects, although they displayed high implicit prejudices of caregiving roles, indicated that they would prefer a career in the fields dominated by men, like business leadership and technology [30]. Nevertheless, they tended to doubt themselves and feel less self-efficacy in themselves, which has been reported in studies of imposter syndrome [31]. This indicates that implicit stereotypes, although not conscious, may affect the confidence of a person's career as well as their self-efficacy in decision-making, as observed in the outcome of the Career Decision-Making Self-Efficacy Scale (CDMSE) (Table 2).

4.1.2. Bias in Cognition and Career Choice

Figure 3 (SEM model) findings validate the assertion that cognitive biases, including the confirmation bias and availability bias, are critical determinants of the career decision-making process in China. There was a tendency to select careers that conform to the preconceived ideas of prestige, expectations of society, and gender roles. The result is in line with findings by Kahneman and Tversky (1974), who contended that cognitive biases in most instances cause people to make decisions based on what they know or can find easily, as opposed to being objective.

Urban participants, as reflected in Figure 2, had better career aspirations in finance and technology, both of which were very prestigious and of high social status. These are gender-neutral or even male-dominated occupations that are based on cultural concepts of success and fortune. Rural participants, however, tended to lean towards more traditional careers such as teaching and healthcare that are perceived to be more stable and acceptable in the Chinese rural society. Availability bias also affected these choices because the most easily available success or prestige was in these local, well-thought-of occupations.

4.1.3. Social Identity and Occupational Choices

The social identity was also influential in the process of career decision-making. As it was explained in the Theoretical Framework, the social identity theory assumes that group affiliations (e.g., gender, ethnicity, region) influence the decisions and perceptions of people. This was highly reflected in the data. The urban participants also tended to choose

careers that were related to social prestige. In contrast, the rural participants shared their career preferences according to the family and social identity, and made stability, rather than prestige, more important.

Interestingly, regional identity (urban vs. rural) also played with gender identity. In a study of women respondents in the urban centers, the potential respondents had more aspirations towards high-status jobs in both business and technology than those in rural areas; this may be attributed to the exposure of the female respondents in an urban setting to a variety of role models. Rural women, on the contrary, were more likely to stay in female-dominated jobs, like teaching and healthcare, because of social and family pressure.

4.2. Career Development Implications

There are several implications of these results on career counseling, education, and policy formulation in China.

4.2.1. Implicit Bias and Career Counseling

The imminent influence of implicit stereotypes and cognitive bias on student career objectives and choices should be made known to career counselors and educators. Counselors and educators may be trained on implicit bias to learn to identify and reduce the effect of such biases when counseling students. The stereotype effects might be mitigated by creating an atmosphere of career self-efficacy and informed decision-making, which enable students to choose careers based on their interests, even though not on societal pressures.

4.2.2. Sex and Workplace Equity

To achieve gender equality, the research findings indicate that affirmative action is required to make women take up careers in areas that are mainly dominated by the male gender, including engineering, technology and leadership roles. Mentorship programs, scholarships, and gender-neutral hiring guidelines would be useful in dismantling gender stereotypes in career decision-making and prompt the female population to rethink their career choices.

Moreover, it is possible to encourage women role models in non-traditional areas to establish the career self-efficacy of women and overcome implicit gender prejudice. By making young women seek these positions, it may bring a change in the career sphere of China.

4.2.3. Local Inequality and Professional Nurturing.

The results show the urban-rural gap that states that the policy intervention is necessary because the differences in career development across the regions must be mitigated. The rural participants do not get equal career opportunities and resources as their urban counterparts. The gap can be addressed by increasing the number of career exploration programs, online programs, and job placement services in rural areas. Moreover, it is possible that the incorporation of career education within high schools in all regions would equip students with increased competitiveness in the workplace.

4.3. Limitations of the Study

This study, though containing important knowledge on the effect of implicit stereotypes and cognitive biases on career choice-making, has its limitations:

Sample Size: Despite the large sample size, it might not be completely representative to all the areas and socioeconomic groups in China, especially those in the less developed areas.

Self-reporting Data: Self-reporting data may be biased as far as the aspect of responding to implicit biases and career aspirations is concerned.

Cross-Sectional Design: The study design is cross-sectional, which makes the researcher not be able to draw conclusions on relationships that are causal and based on time.

4.4. Future Research Recommendations

Future research should consider longitudinal research to be conducted to determine the dynamics of implicit biases and how they eventually impact career paths. Also, intersectionality (the combination of gender, class, ethnicity, and region) research done qualitatively can clarify further how different levels of social identity can influence career decision-making.

Finally, this paper has indicated that implicit stereotypes, cognitive biases, and social identity have a huge influence on career decision-making in China. The results indicate that these psychological barriers are overcome only through specific intervention in education and career counseling, as well as in policy formulation. By solving these problems, it not only helps people to be better-informed and confident in their career choices but also leads to a more inclusive and equal labor market in China.

5. Conclusion

The paper also sought to empirically determine how implicit stereotypes, cognitive bias, and social identity influence career choice in China. The most important conclusions made during the research indicate that implicit stereotypes, including gender prejudices, do play a major role in career wishes. The implicit gender bias was also found in a significant number of the participants who linked leadership with males and caring careers with females. Such prejudices tended to make women avoid male-dominated areas such as business and technology although they show interest in those areas.

The authors also discovered that cognitive biases including confirmation bias and availability bias also greatly influenced the career decisions of the participants. Most of the participants tended to pick a career depending on its prestige or social appreciation, like finance and technology career instead of depending on their interests or aptitudes. Moreover, social identity was important in influencing career decisions. The urban participants were more prone to high-status careers in finance and technology, whereas the rural population preferred the conventional careers that included education and health. These decisions were also moderated by gender identity because women living in rural locations experienced greater expectations of society that dictated the available career choices.

The results of this research are relevant to career counseling, education, and policy-making in China. It is also evident that implicit bias in counseling on careers can be addressed by the use of training programs to enable students to make informed choices in their careers. There should be gender-specific interventions to prompt women to join the male-dominated fields. Also, more focus should be directed towards the gap in the regions, and the rural youth must receive equal opportunities with respect to career development.

The study can be further developed in the future by considering the long-term consequences of implicit stereotypes on career trajectories and elaborating more on the intersectionality of gender, ethnicity, and region. It is necessary to discuss intervention strategies that could be used to decrease implicit biases in career decision-making to create a more equitable career environment in China. Through these psychological barriers, China would be empowering people to follow their hobbies and interests and not occupations as demanded by society.

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Conflict of Interest

The authors have no conflict of interest with this study.

References

1. Li W, Sun H, Khan A, Gillies R. A qualitative study of career decision making among African and Asian international medical students in China: process, challenges, and strategies. *Advances in Health Sciences Education*. 2024 Nov;29(5):1711-34. Doi: <https://doi.org/10.1007/s10459-024-10329-z>
2. He Y. A Literature Review on the Impact of Career Counseling on Students' Career Decision-Making Abilities in Secondary Education in China. *Advances in Education, Humanities and Social Science Research*. 2025 Jul 21;14(1):255-.
3. Damas RR, Kurniawati F. Parental Involvement on Career Decision-Making among Students in Collectivist Cultures: A Systematic Literature Review on High School and Undergraduate Students in Asian Countries. *Jurnal Kependidikan: Jurnal Hasil Penelitian dan Kajian Kepustakaan di Bidang Pendidikan, Pengajaran, dan Pembelajaran*. 2025 Mar 21;11(1):87-99.
4. Meng M, Li X, Zhao J, Hao Y. When Western concept meets eastern culture: exploring the impact of Confucianism on shared decision-making in China. *Asia-Pacific Journal of Oncology Nursing*. 2024 Nov 1;11(11):100586. doi: 10.1016/j.apjon.2024.100586
5. Rahmani Azad Z, Goedderz A, Hahn A. Self-awareness and stereotypes: Accurate prediction of implicit gender stereotyping. *Personality and Social Psychology Bulletin*. 2023 Dec;49(12):1695-708. doi: 10.1177/01461672221120703
6. Mujtaba BG. Distinguishing implicit from explicit biases in modern workforce management: Mitigation strategies to prevent its negative impact and promote meritocracy. *Journal of Management World*. 2025;4:1-4. doi:<https://doi.org/10.53935/jomw.v2024i4.1142>
7. VanPuymbrouck LH, Friedman C. Gender career stereotypes, implicit bias, and occupational therapy. *Journal of Occupational Therapy Education*. 2023;7(4):11. doi: <https://doi.org/10.26681/jote.2023.070411>
8. Feldner HA, VanPuymbrouck L, Friedman C. Explicit and implicit disability attitudes of occupational and physical therapy assistants. *Disability and Health Journal*. 2022 Jan 1;15(1):101217. doi: 10.1016/j.dhjo.2021.101217

9. Noro F, Mourão L. LGBTQIA+ individuals in the sports context: a systematic literature review based on social identity theory. *Trends in Psychology*. 2024 Jul 26:1-21.
10. Gaffney AM, Hogg MA. Social identity theory. In: *Oxford Research Encyclopedia of Psychology*. 2023 Jul 19. doi: <https://doi.org/10.1093/acrefore/9780190236557.013.681>
11. Ferrari F. Social identity theory and diversity management: A socio-psychological approach to inter-gender dynamics in organizations. In: *Feminist Perspectives in Business Studies*. 2025 May 20 (pp. 57-73). Edward Elgar Publishing. doi: <https://doi.org/10.4337/9781035336005.00011>
12. Aisyawati MS, Akbar Z. Career Decision Making in Cross-Cultural Analysis: A Review. *Proceeding Series of Psychology*. 2024 Dec 10;2(1):32-8.
13. Beroíza-Valenzuela F. Implicit gender stereotypes in STEM: measuring cognitive bias and group differences through reaction times. *International Journal of STEM Education*. 2025 Apr 9;12(1):20.
14. Addabbo T, Strozzi C, Tasselli C. Gender inequalities in college major choices. The role of explicit and implicit stereotypes. *DEMB WORKING PAPER SERIES*. 2022. doi:https://dx.doi.org/10.25431/11380_1284504
15. Greenwald AG, Brendl M, Cai H, Cvencek D, Dovidio JF, Frieze M, Hahn A, Hehman E, Hofmann W, Hughes S, Hussey I. Best research practices for using the Implicit Association Test. *Behavior research methods*. 2022 Jun;54(3):1161-80.
16. Dunlap ST, Barth JM. Career identities and gender-STEM stereotypes: When and why implicit gender-STEM associations emerge and how they affect women's college major choice. *Sex Roles*. 2023 Jul;89(1):19-34. doi: <https://doi.org/10.1007/s11199-023-01381-x>
17. Korteling JE, Toet A. Cognitive biases. *Encyclopedia of behavioral neuroscience*. 2022 Jan 1;3:610-9.
18. Khadka C. Social identity theory and group behavior. *TUTA Journal*. 2024 Nov 30:105-20. doi: <https://doi.org/10.3126/tutaj.v12i1.74063>
19. Liu JH, Xie T. China's collectivist cosmopolitanism: Harmony and conflict with Western conceptualizations of cosmopolitanism rooted in individualistic notions of human rights. *Journal of Pacific Rim Psychology*. 2023 Aug;17:18344909231194854. doi: <https://doi.org/10.1177/18344909231194854>
20. Lu HJ, Zhu N, Chen BB, Chang L. Cultural values, parenting, and child adjustment in China. *International Journal of Psychology*. 2024 Aug;59(4):512-21. doi: <https://doi.org/10.1002/ijop.13100>

21. Yan L, Zhong X, Yang L, Long H, Ji P, Jin X, Liu L. Gender differences in job burnout, career choice regret, and depressive symptoms among Chinese dental postgraduates: a cross-sectional study. *Frontiers in Public Health*. 2022 Apr 27;10:832359. doi: <https://doi.org/10.3389/fpubh.2022.832359>
22.
Lui L, Chan KW. “Rural but not rural”: gendered and classed moral identities in liminal spaces in Guangdong, China. *Eurasian Geography and Economics*. 2022 Mar 4;63(2):239-58.
doi:<https://doi.org/10.1080/15387216.2020.1833358>
23. Xu G, Ma Y, Zhu Y. Social participation of migrant population under the background of social integration in China—Based on group identity and social exclusion perspectives. *Cities*. 2024 Apr 1;147:104850. doi: <https://doi.org/10.1016/j.cities.2024.104850>
24. Dahal P, Joshi SK, Swahnberg K. A qualitative study on gender inequality and gender-based violence in Nepal. *BMC public health*. 2022 Nov 1;22(1):2005.
25. Wang D, Liu X, Deng H. The perspectives of social cognitive career theory approach in current times. *Frontiers in psychology*. 2022 Nov 30;13:1023994. doi: <https://doi.org/10.3389/fpsyg.2022.1023994>
26. He Y. A Literature Review on the Impact of Career Counseling on Students' Career Decision-Making Abilities in Secondary Education in China. *Advances in Education, Humanities and Social Science Research*. 2025 Jul 21;14(1):255-. doi:<https://doi.org/10.2147/AMEP.S550025>
27. Jung YM, Yoo IY. Development and testing of the career decision-making self-efficacy scale for nursing students: a methodological study. *BMC nursing*. 2022 Aug 23;21(1):231. doi: 10.1186/s12912-022-01017-7.
28. Kang S, Sanchez CA, Dong A. Developing the Gender-Design Implicit Association Test: A Tool for Understanding How Implicit Gender Bias Shapes Design Cognition. In: *International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*. 2025 Aug 17 (Vol. 89244, p. V004T06A035). American Society of Mechanical Engineers. doi: <https://doi.org/10.1115/DETC2025-169300>
29. Merma-Molina G, Ávalos-Ramos MA, Martínez Ruiz MÁ. Gender stereotypes: persistence and challenges. *Equality, Diversity and Inclusion: An International Journal*. 2022 Sep 21;41(7):1112-35. doi: <https://doi.org/10.1108/EDI-12-2018-0229>

30. Heilman ME, Caleo S, Manzi F. Women at work: Pathways from gender stereotypes to gender bias and discrimination. *Annual Review of Organizational Psychology and Organizational Behavior*. 2024 Jan 22;11(1):165-92. Doi: <https://doi.org/10.1146/annurev-orgpsych-110721-034105>

31. Chatterjee D. Imposter Syndrome and Its Relationship with Self-Efficacy and Achievement of Success. Available at SSRN 4815409. 2024 May 2. doi: <https://doi.org/10.1007/s12144-023-04672-4>

Appendix

A. Survey Instruments

A.1. Implicit Association Test (IAT)

Implicit gender biases in career decision-making were measured by implementing the Implicit Association Test (IAT). The following is the description of the task that the participants were supposed to be given:

Task 1: Identify male and female faces using words that refer to leadership or caregiving.

Task 2: Name some occupations, such as engineer and nurse, whose faces are male or female.

Scoring: The time to categorize the words and images was recorded, and lesser time was faster, which showed a stronger association.

A.2. Career Decision-Making Self-Efficacy Scale (CDMSE)

The Career Decision-Making Self-Efficacy Scale (CDMSE) was used to assess the confidence of participants in making career decisions. The scale includes 25 items, the ratings of which are based on a 5-point Likert scale, with the rating item as Strongly Disagree to Strongly Agree. Sample items include:

- I am assured to collect information to make career choices.
- I am optimistic about making career goals.
- I believe I have taken the correct course in my career.

Scoring: A total score was obtained to reflect the general career decision-making self-efficacy among the participants, whereby a higher score reflected a high degree of self-efficacy.

A.3. Social Identity Scale

The Social Identity Scale was modified to determine the intensity of social identification of the members to various social categories such as gender, region, and ethnicity. The scale contained such items as:

- I identify myself greatly with my gender group.
- My professional preference is determined by my local environment.
- I am very much attached to my ethnic group.
- They were asked to measure the level of agreement on a 1 to 5 scale, and the higher the score the more they identified themselves with a particular group.

B. Interview Protocol

The semi-structured interview protocol, which was employed in the collection of qualitative data, consisted of the following key questions:

Gender and Career Choices:

- Did you ever make a career choice based on gender-related social norms?
- Would you say your gender has affected the career choices you have made?

Local Identity and Career Decision:

- Do you believe your home country has had a role in influencing your career prospects? In what ways?"

- What do you believe to be the most popular jobs of people living in your area?

Cognitive Biases:

- Have you ever found yourself passing judgment and making career-related decisions by stereotype or existing examples of success? Please describe.”
- What do you think your family or community had to offer in terms of career choice?