Career Uncertainty and Employment Anxiety Faced by Arabic Language Undergraduates in the Face of Big Data

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Abstract: Employment anxiety is a psychological issue commonly found among contemporary college students, with manifestations that transcend disciplinary boundaries, encompassing a dual-dimensional structure of cognitive expectations and somatic symptoms, and posing threats to social stability and human resource development. Research indicates that individual psychological factors (psychological resilience, career sense of mission, cognitive bias), social environment (social support, employment guidance, social media use), and external events (pandemic, market uncertainty) collectively shape the mechanism of anxiety formation. Among these, career uncertainty as a core predictor exacerbates anxiety through pathways that reduce tolerance for uncertainty, trigger chain reactions of fear and depression, and weaken sense of control, while career planning and social support can buffer these effects.

For Arabic language major students facing unique challenges in the big data era, it is recommended to establish a three-tier intervention system: at the social level, expand "language+technology" composite positions and establish information platforms; at the school level, reform curriculum systems (integrating data analysis), implement comprehensive career planning and specialized psychological interventions; at the individual level, master cross-domain skills, explore interest-career connections and enhance psychological resilience. Multi-dimensional linkage can transform uncertainty into opportunities for cross-domain development.

Keywords: Employment Anxiety; Career Uncertainty; Arabic Language Major; Big Data Era

1.Introduction

Employment anxiety, as a psychological issue widely prevalent among contemporary college students, has become a research hotspot in global higher education. Against the backdrop of China's rapid social transformation and economic structure upgrading, the continuous expansion of college graduates and intensified job market competition have caused employment anxiety to exhibit characteristics of high incidence and complexity (Wang et al., 2025; Zheng et al., 2022). Empirical research shows that the prevalence of employment anxiety among Chinese college students transcends disciplinary boundaries: it is significantly present among art education and music majors (Zhang et al., 2023; Ya et al., 2024), science and engineering students also face employment confidence crises triggered by the pandemic (Zheng et al., 2022), and it even extends to hotel service workers (Chela-Alvarez et al., 2022). This anxiety is not only manifested as concerns about career prospects but

is also reflected through a dual-dimensional structure of "cognitive expectations" and "somatic symptoms," such as sleep disorders and attention deficits (Wang & Hu, 2025). Its importance lies in the fact that employment anxiety has transcended the realm of individual psychology and directly relates to social stability and sustainable human resource development—when anxiety is not effectively addressed, it may trigger "slow employment" behavioral tendencies (Wang & Li, 2022), and even lead to risks of talent resource mismatch and structural unemployment.

The negative impacts of employment anxiety spread on multiple levels. At the individual psychological level, anxious emotions and cognitive biases form a vicious cycle: Wu et al. (2024) demonstrated through interpretation bias modification experiments that employment anxiety significantly strengthens individuals' negative interpretation patterns of career information, exacerbating the collapse of self-efficacy. This psychological depletion further weakens career decision-making abilities, triggering career identity crises (Wang et al., 2025). At the behavioral level, anxiety directly translates into avoidance tendencies—long-term income orientation and cost-avoidance values, through the mediating effect of anxiety, increase the probability of college students choosing "slow employment" (Wang & Li, 2022). More seriously, anxiety has social conductivity: the intensity of social media use amplifies the sense of relative deprivation among youth groups through upward social comparison mechanisms, causing anxiety to spread within groups (Jin et al., 2024). It is worth noting that sudden public events such as pandemics can catalyze the destructive power of anxiety. Zheng et al. (2022) found that COVID-19 pandemic anxiety leads to a stronger sense of employment crisis among science, engineering, and male students by weakening employment confidence and situation perception, and this psychological impact is particularly persistent in the absence of employment guidance. Facing the chain reaction of employment anxiety, exploring intervention paths has urgent practical significance.

2.Factors Affecting Employment Anxiety:

Existing research has explored various factors influencing college students' employment anxiety, covering individual psychological traits, social environment, external events, and intervention measures. These factors interact with each other, jointly shaping the formation mechanism and manifestation of employment anxiety.

2.1 Individual Psychological Factors

Research shows that **psychological resilience** and **career sense of mission** play key roles in alleviating employment anxiety. Wang et al. (2025) found that psychological resilience can buffer the negative impact of employment pressure, while career sense of mission reduces anxiety levels by giving meaning to career choices. Additionally, **self-efficacy** (Zhang et al., 2023) and **self-esteem** (Ya et al., 2024) have also been confirmed as important mediating variable social support indirectly reduces employment anxiety by enhancing individual self-efficacy. **Cognitive bias** also affects employment anxiety; Wu et al. (2024)'s experimental research shows that negative interpretation tendencies toward employment information exacerbate anxiety, while interpretation bias modification training (IBM) can effectively reduce anxiety levels.

2.2 Social Support and Environmental Factors

Social support (including support from family, friends, and schools) is an important protective factor in alleviating employment anxiety. Ya et al. (2024) found that the level of social support among music major university students was significantly negatively correlated with employment anxiety, and this relationship was realized through the mediating effect of self-esteem. Zhang et al. (2023)'s research further points out that social support reduces employment anxiety among art education majors by enhancing self-efficacy. Additionally, the role of **employment guidance** cannot be ignored; Zheng et al. (2022) found that college employment guidance can alleviate the negative impact of pandemic anxiety on employment confidence, especially with more significant effects for science, engineering, and male students.

The influence of social media use presents a duality. Jin et al. (2024)'s research shows that although social media can help job seekers obtain employment information, its high intensity increases anxiety through **upward social comparison** (i.e., relative deprivation resulting from comparisons with others), and online social support can only partially offset this negative impact.

2.3 External Events and Macro Environment

Sudden public events (such as the COVID-19 pandemic) have significant impacts on employment anxiety. Zheng et al. (2022)'s

survey shows that pandemic anxiety significantly reduced college students' employment confidence, especially for temporary workers and young employees (Chela-Alvarez et al., 2022). Additionally, **job market uncertainty** (such as economic fluctuations, industry contraction) also exacerbates anxiety; Wang and Li (2022) found that long-term income orientation and cost-avoidance values increase the tendency toward "slow employment" through the mediating effect of employment anxiety.

3.Career Uncertainty and Anxiety

Career uncertainty as a core predictor of employment anxiety exacerbates individual anxiety experiences through various psychological and social mechanisms.

Career uncertainty refers to the psychological state where individuals lack clear cognition about future career paths, employment opportunities, and job stability in their career development process (Chen & Zeng, 2021). It specifically manifests as: career goal ambiguity: lack of clear career direction or ideal positions (Wan et al., 2024); employment prospect unpredictability: concerns about industry demand, salary levels, or career stability (Zhou et al., 2022); decision-making difficulties: struggling to weigh pros and cons among multiple career options (Tang et al., 2024).

The COVID-19 pandemic further amplified this uncertainty. For example, Zhou et al. (2022) found that the unpredictability of future careers (such as "whether one can find an ideal job" or "whether the industry is contracting") during the pandemic significantly increased anxiety levels among Chinese college students. Similarly, a survey of New Zealand doctoral graduates by Spronken-Smith et al. (2023) showed that 60.6% of respondents were forced to change their career plans due to the pandemic, with international students bearing higher anxiety due to uncertainty in visa and border policies.

3.1 Psychological Mechanisms of How Career Uncertainty Affects Employment Anxiety

Existing research has revealed three key pathways:

(1) The Mediating Role of Intolerance of Uncertainty (IU)

Intolerance of uncertainty refers to an individual's ability to adapt to ambiguous situations, with low IU individuals more likely to experience anxiety due to unknown threats. Chen and Zeng (2021)'s study of 563 Chinese graduates found that IU fully mediates the relationship between career uncertainty and employment anxiety ($\beta = 0.38$, $p < 0.001$). When individuals cannot tolerate the ambiguity that "future work may not meet expectations," they fall into repetitive negative rumination (such as "I will definitely fail"), thus triggering physiological symptoms of anxiety (such as palpitations, insomnia).

This mechanism is more significant in NEET (Not in Employment, Education, or Training) groups. Tang et al. (2024) pointed out that Chinese NEET youth during the pandemic expressed feelings of powerlessness about the future through frequent use of negative network memes, which reinforced cognitive biases of "career hopelessness," further exacerbating anxiety (indirect effect accounting for 27%).

(2) Chain Mediation of Fear and Depression

Career uncertainty may lead to chronic anxiety by triggering fears of specific threats (such as unemployment, economic difficulties) and subsequently causing depressive emotions. Zhou et al. (2022)'s study of 1,919 Chinese college students showed that COVID-19 fear, and depressive symptoms act as chain mediators between IU and employment anxiety, with a total indirect effect of 0.24 ($p < 0.01$). Specifically, career uncertainty first activates students' fear of "job market contraction under the pandemic," subsequently inducing depression (such as loss of interest, self-deprecation) due to long-term stress, and finally manifesting as persistent employment anxiety.

(3) Weakening of Control Sense and Self-Efficacy

Career uncertainty erodes individuals' sense of control over career development. According to the Psychology of Working Theory (PWT), when people perceive a low possibility of "decent work" in the future, their work volition decreases, thereby exacerbating anxiety (Wan et al., 2024). For example, economic constraints indirectly increase anxiety levels by reducing poor college students' sense of control over career choices ($\beta = -0.31$, $p < 0.01$).

3.2 Moderating Role of Social Contexts

The relationship between career uncertainty and employment anxiety is not linear but is moderated by contextual factors such as social support and career planning:

(1) Buffering Effect of Career Planning

Chen and Zeng (2021) found that career planning significantly weakens the negative impact of IU on anxiety ($\Delta R^2 = 0.07$, $p < 0.05$). Specifically, setting clear career goals (such as "becoming a project manager within three years") can help individuals reconstruct uncertainty as "manageable challenges" rather than uncontrollable threats. For example, a study of Taiwanese nursing graduates showed that clear career planning (such as "entering ICU after obtaining a license") can alleviate anxiety caused by national exam pressure (Sun et al., 2021).

(2) Compensatory Role of Social Support

Tang et al. (2024) pointed out that high social support (such as family encouragement, alumni networks) can offset the negative impact of career uncertainty by providing emotional comfort and practical job-seeking help. For example, among art education major students, social support indirectly reduces anxiety by enhancing self-efficacy (Zhang et al., 2023). However, Kim et al. (2022) warned that overdependence on social media might backfire—upward social comparison amplifies the sense of relative deprivation that "others are more successful than me," thereby exacerbating anxiety.

(3) Intervention Potential of Organizational Support

For workplace newcomers, organizational-level support (such as clear promotion paths, skills training) can reduce uncertainty. For example, the Canadian Department of National Defense significantly reduced employee anxiety levels during the pandemic by optimizing remote work technology and clarifying career development channels (Goldenberg et al., 2022). Similarly, Blackburn et al. (2022) found that newcomers in the radiological diagnostics profession adapted to work more quickly and experienced lower anxiety levels than their peers who did not receive support, due to the "transitional mentoring system" provided by the hospital.

4.Rebounding and Defensive Comprehensiveness

4.1 Rebound Data

4. Suggestions for Addressing Career Uncertainty and Employment Anxiety Among Major Arabic Language Students in the Big Data Era

In the context of rapid globalization and digitalization, Arabic language major students face unique employment challenges: on one hand, demand for traditional language positions (such as translation, diplomacy) tends to be saturated; on the other hand, the impact of big data and artificial intelligence technology on the language service industry has exacerbated career uncertainty. This uncertainty may trigger employment anxiety, manifested as confusion about career prospects, concerns about skill obsolescence, and fear of cross-domain competition. To alleviate this problem, coordinated interventions are needed at the social, school, and individual levels to build a systematic support network.

1. Social Level: Optimize Policy and Industry Connection

Expand demand for "language + technology" composite positions : The government should encourage companies (such as cross-border e-commerce, international data analysis companies) to create positions combining Arabic language and big data (such as multilingual public opinion analysts, AI language trainers), and incentivize enterprises to recruit language professionals through tax benefits or subsidies (referring to research on decent work perception by Wan et al., 2024).

Establish industry information sharing platform: Led by industry associations or education departments, regularly publish employment data related to Arabic language industries (such as regional demand trends, skill gaps) to help students reduce anxiety caused by information asymmetry (like Goldenberg et al., 2022's recommendations for the Canadian Department of National Defense).

Strengthen international collaboration projects: Promote school-enterprise cooperation in countries along the "Belt and Road" initiative to provide students with overseas internship or remote work opportunities, enhance their cross-cultural adaptation ability and employment competitiveness.

2. School Level: Reform Training Model and Psychological Support

Curriculum system innovation: Embed modules such as big data analysis and natural language processing (NLP) basics into traditional language courses to cultivate "Arabic language + data science" composite abilities (such as offering "Arabic Social Media Data Analysis" courses). Drawing on Zhao (2022)'s empirical findings on how ethnic music education alleviates anxiety, practical courses can enhance students' self-efficacy.

Career planning throughout the program: Conduct phased career guidance from freshman year, including:

Lower grades: Industry awareness workshops (inviting data analysts and international project managers in the Arabic language field to share career paths).

Upper grades: Mock interviews and skill certifications (such as encouraging AWS Arabic speech processing certification).

Graduation season: Cooperate with enterprises to carry out "order-based training," directly connected with employment positions (referring to Chen & Zeng, 2021's findings on the buffering effect of career planning).

Specialized psychological interventions: For common "professional marginalization anxiety" among Arabic language students, school counseling centers can offer group counseling courses, combining cognitive bias modification training (IBM) (Wu et al., 2024) to help students reconstruct their cognition of career prospects (such as "language ability is the foundation for cross-domain cooperation rather than a limitation").

3. Individual Level: Proactive Adaptation and Technological Empowerment

Cross-domain skill learning: Students should actively master basic programming (such as Python), data visualization tools (such as Tableau), or machine translation principles, transforming language advantages into application capabilities in technical scenarios (such as participating in Arabic corpus annotation projects).

Build "interest-career" connections: Through social media (such as LinkedIn), follow innovation cases in the Arabic language field (such as Dubai AI customer service system development), explore the intersection of personal interests and emerging industries, and reduce dependence on traditional paths (echoing Jin et al., 2024's suggestions on reasonable use of social media).

Enhance psychological resilience: Cultivate tolerance for uncertainty through mindfulness training (such as Sun et al., 2021's intervention for nursing graduates) and stress diary recording; meanwhile, actively participate in alumni networks or industry communities to gain emotional support and practical advice (like Tang et al., 2024's emphasis on the role of social support).

5.Conclusion

The employment anxiety of Arabic language major students stems from the gap between industry transformation and individual preparation. Through three-dimensional linkage of society creating composite positions, schools promoting curriculum reform, and individuals actively upgrading skills, career uncertainty can be transformed into opportunities for cross-domain development. In the future, further research is needed on specific paths for integrating Arabic language with emerging technologies and more precise employment support policies for students of less commonly taught languages.

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Conflict of Interests

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