Influence of College Student' Artificial Intelligence Quotient on Employability

Xingjing Cheng and Yuanfeng Cai
Stamford International University, Thailand
Corresponding Author, Email: Yuanfeng,cai@ stamford edu

****

Abstract

This study establishes on the review of relevant Chinese and foreign literature and the interview results, three variables of college students' employability, artificial intelligence quotient and self-regulation index system are established, and reliability analysis, exploratory factor analysis and confirmatory factor analysis are carried out. Secondly, AMOS22.0 is used to build a structural equation model to analyze the effects of artificial intelligence quotient and self-regulating variables on college students' employability. SPSS22.0 was used to explore the influence of artificial intelligence quotient and self-regulation on college students' employability, and the adjustment effect of self-regulation variables was analyzed. The results show that the creativity, data power, communication power, learning power and individual acceptance of college students will positively and significantly affect their employability in the intelligent era. College students' artificial intelligence quotient and self-regulation will positively and significantly affect their employability. Self-regulation can significantly enhance the influence of artificial intelligence quotient on the employability of college students, that is, self-regulation has a significant positive regulating effect on the influence path of artificial intelligence quotient on the employability of college students.

Keywords: Artificial Intelligence Quotient; College Students' Employment; Self-regulation

Introduction

Research on AIQ by Chinese and international scholars is scarce, and the scope of the research is limited to the training of higher education teachers, talent development, teaching scenarios, and curriculum design. There is also a postgraduate thesis that studied the impact of AIQ on the employability of university students in Hangzhou. Zhao et. al. (2020) proposed the systematic construction of an AI education system to enhance individual AIQ, and introduced a framework for AIQ, highlighting the connotation and value of AIQ, and identifying the collaborative innovation qualities needed by humans in the era of intelligence, dividing the AIQ framework into four dimensions: creativity, data power, communication skills, and learning ability. Yu (2021) suggested that in the intelligent era, only teachers with high AIQ can use new concepts to design learning environments and carry out teaching assessments to better face future teaching innovations, and strive to improve students' AIQ. Ren et.al. (2022) analyzed and studied the talent development and industry-education integration paths in Hebei Province in the AIQ era based on the current status of education development in Hebei Province, rooted in the local culture of Hebei Province, and proposed valuable suggestions. Zhang et.al. (2018) proposed a quantitative index system for AIQ based on the application of innovative thinking, and conducted a beneficial exploration of the development and practice of innovative accounting education courses. Wang (2021) explored the factors affecting the

*Received: August 26 2024; Revised: September 29 2024; Accepted: September 30 2024

employability of university students in the intelligent era against the background of Hangzhou universities, and guided various aspects to enhance the employability of university students to adapt to the labor demands of the intelligent era, seizing employment opportunities to achieve and maintain employment as an objective necessity. Although the impact of artificial intelligence on the employment of university students has been given attention and has formed a certain scale of research, most of it is from a qualitative perspective directly discussing the impact of artificial intelligence on the employment of university students. There are few articles that change the perspective and analyze the factors and paths of enhancing the AIQ of university students under the background of artificial intelligence from the perspective of university students. Therefore, this article will take some colleges and universities in Guizhou Province as research samples, and study the impact of university students' AIQ on their employability, in order to provide direction for improving the employability of university students and to cope with the impact of artificial intelligence on the employment of university students.

Against this backdrop, this study sets out to address the following research questions: (1) Does artificial intelligence quotient affect college students' employability?(2) Does self-regulation affect college students' employability?(3) Does self-regulation regulate the effect of artificial intelligence quotient on employability? The objective of this study is to through a specific analysis of the connotations and structural elements of university students' employability and artificial intelligence commerce in the era of artificial intelligence, it provides a certain reference for promoting the optimization and innovation of talent training models in higher education institutions. It also provides some ideas for higher education institutions to enhance students' employability through professional settings, curriculum systems, and discipline construction. Furthermore, it provides a scientific tool for evaluating university students' employability, and offers an employability framework and optimization direction to guide university students in fully realizing employment in the era of artificial intelligence.

Literature Review

Artificial Intelligence Quotient

The concept of "artificial intelligence quotient" first originated in the book "Education Revolution in the Education Revolution in the era of artificial intelligence". He clearly pointed out that the number of artificial intelligence quotients is "the ability to use artificial intelligence technology". Ability. He believes that different times have different requirements for human workers. In the era of artificial intelligence, human workers require human workers to have artificial intelligence quotients (Wang, 2018). Nick has developed the concept of artificial intelligence quotient in the book " AIQ: How People and Machines Are Smarter Together". He used seven historical figures to show people why smart humans need smart machines, and smart machines also need smart people. When people combine their thoughts with artificial intelligence technology Smart, This is Nick's understanding of the concept of artificial intelligence quotient (Nick& James, 2018). In simple terms, Nick believes that the artificial intelligence quotient is actually the combination of artificial intelligence and human intelligence, and only when the integration of human and intelligence is achieved, people and machines can work smarter.

college students' employment

Starting from the perspective of college students themselves, Harvey (2001) believes that the employability of college students should include six aspects of abilities: professional knowledge, willingness to learn, self-management, communication, teamwork, and interpersonal relationship management. This definition comprehensively summarizes the various skills that college students need to develop in order to meet their employability needs. Rothwell and Boden proposed that for college students, employability is not only the ability to obtain a job but more importantly, the ability to maintain a job that is commensurate with their qualifications after finding employment (Boden & Nedeva, 2010; Rothwell et al., 2008). This definition implies the perceptual ability of college students regarding their own employability, and it sets higher requirements for the employability of college students. From the perspective of university education, Yorke and Knight (2014) proposed the USEM model for cultivating the employability of college students, based on cognitive psychology and social psychology. This model divides employability into four constituent elements: Understanding, Skill, Efficacy beliefs, and Meta-cognition. They believe that in order to cultivate the employability of students, it is not only important to focus on imparting professional skills but also to pay attention to the cultivation of general skills and goal-oriented learning. Fugate et al. (2004) proposed the Psycho-Social Construct model, which emphasizes the subjective initiative of individuals and includes three independent and related components: career development planning, adaptation to the work environment, and smooth social communication. Moreland (2006) believes that in addition to cultivating basic professional knowledge and skills, higher education should also cultivate the special employability of students, such as innovation ability, desire for success, and risk-taking ability. Dacre Pool et al. (2007) developed the Career EDGE model based on the principle of practicality, on the basis of existing relevant employability models. This model has been widely used in different disciplines such as human resources, management, and education due to its concise and practical characteristics, providing important theoretical support for the cultivation of college students' employability. The Career EDGE model has three levels, and the bottom level is the core of the model, consisting of five basic elements: career development learning, work and life experience, degree subject knowledge understanding and skills, generic skills, and emotional intelligence. Jackson (2016) emphasizes the development of college students' "pre-professional identity" during their university years, which refers to the ability to identify and analyze potential career paths, set expectations for future careers, and understand job requirements, in order to quickly enter the work role after graduation.

Self-regulation

Self-regulation theory, proposed by Bandura (1986) in the 1970s and 1980s, is derived from social cognitive theory and refers to an individual's self-assessment of his or her own competence in a particular behavior , the results of which influence the individual's choice of behavior , the degree of effort exerted, and the longevity of the time adherence (Bandura, 1986). Research on the connotations of self-regulation has followed the ideas in Bandura's theory of self-regulation, resulting in a largely consistent conceptualization. There are broad and narrow definitions of self-regulation. Self-regulation in the broad sense refers to the process by which people set standards of behaviour for themselves and use rewards or punishments over which they have control to reinforce, maintain or change their behaviour. Self-regulation, in the narrow sense, actually refers to self-reinforcement, i.e., the process of reinforcing and

maintaining one's own behaviour with rewards that one can control when one meets the standards that one has set for oneself (Bandura, 1986).

Rational choice theory

Rational choice theory, also known as choice theory or rational action theory, is a series of theories in political science and social science that advocates that actions are fundamentally rational, and people consider the pros and cons before making decisions (Browning et al., 1999). The rationality in rational selection refers to the benefits and effectiveness that can analyze and compare various choices. After that, it shows the preference for higher utility and interests, and as a basis for behavior, it belongs to a tool rationality. This theory assumes that everyone is a rational subject. There are preferences between different choices. Individuals will form decisions and act according to preferences. These preferences are logically complete (for the two specific options, individuals can always make the high and low sort of preferences, and the sort itself will not be contradictory), and strict transplantability (if there are three options exist, there are three options existing A, B, C, personal preference A> B, B> C, he must prefer A> C). The rational subject will seek all possible information before forming a preference for forming preferences and making decisions, comprehensive reasoning judgment with rationality, comparing the costs and benefits of various options, and finally making decisions.

Social Learning Theory

Social learning theory was proposed by American psychologist Albert Bandura in 1952. It focuses on the role of learning and self -regulation in the behavior of human behavior, and attaches importance to the interaction of human behavior and environment. Ban Dura believes that the impact of personal cognition, behavior and environmental factors and its interaction on human behavior. According to Ban Dura's point of view, previous learning theorists generally ignore the restriction of social variables on human behavior. They usually experiment with animals in physical methods and use this to construct their theoretical system. This seems to be scientific persuasion for the behavior of studying people living in society. Since people always live under certain social conditions, Ban Dura advocates that it is necessary to study human behavior in the natural social situation rather than in the laboratory. Ban Dura pointed out that the stimulus-reaction theory cannot explain human observation and learning phenomena. Because the theory of stimulus-reaction can not explain why individuals show new behaviors, and why the individual may only appear in several days, weeks, or months after observing the role model behavior. Therefore, if social learning is completely based on the results of rewards and punishments, then most people cannot survive in the process of socialization (Bandura, 1969). In order to prove his point of view, Ban Dura conducted a series of experiments and established his social learning theory based on scientific experiments (Yu, 2010).

Derivation of research hypotheses

This study intends to use rational choice theory and social learning theory as the starting point, combined with the existing research results of relevant scholars, to explore the relationship between artificial intelligence quotient, self-regulation, and the employability of college students, and analyze the influencing factors of college students' employability.

In his book "Foundations of Social Theory," Coleman proposed the rational choice theory. Supporters of this theory believe that the actions of individuals are based on value preferences and utility, and that they rationally weigh all factors that can influence the achievement of their goals, and take a series of social actions to make optimal choices by

integrating all available resources. It is important to note that rational intentions and actions are subject to resource constraints, so the ways and amounts of resource acquisition differ, affecting the likelihood of achieving the goals. For college students, the pursuit of artificial intelligence quotient while in school is a rational action, based on the exchange of interests between the individual student and the school, and is influenced by the inherent resources of the student's school, personal, and family capital, thereby affecting the goal of enhancing the employability of college students. Therefore, based on Coleman's rational choice theory and in conjunction with the content of this study, the following hypothesis is proposed:

H1: The artificial intelligence quotient has a significant impact on college students' employability.

Furthermore, Wang Zuobing believes that human creativity will surpass artificial intelligence to become the most important factor influencing future employment. Communication skills differentiate humans from emotionless machines, while learning ability keeps us perpetually ahead. Zhao Yan's empirical investigation indicates that in the era of artificial intelligence, the ability to process data is the most prominent feature that sets an individual apart. Based on existing research by scholars and incorporating interview content, this study proposes the following hypothesis:

H1a: Creative ability has a significant impact on college students' employability.

H1b: Data power has a significant impact on college students' employability.

H1c: Communication skills has a significant impact on college students' employability.

H1d: Learning ability has a significant impact on college students' employability.

Bandura's social learning theory emphasizes the important role of self-regulation and cognitive factors in human life and learning. He points out that cognitive factors can regulate behavioral changes caused by external rewards, punishments, and stimuli, and that cognition can process and encode information generated by the external environment, thereby regulating and changing one's own behavior through this social learning process. At the same time, Bandura believes that humans are dynamic organisms, capable of reacting to external environmental stimuli, making judgments, choices, and taking measures to regulate their behavior to achieve goals. This means that individuals, particularly college students, will instinctively respond to the external environment of the era of artificial intelligence in order to adapt and survive, and this behavior is self-regulation. Therefore, based on social learning theory, this study proposes the following hypotheses:

H2: College students' self-regulation has a significant impact on their employability.

Furthermore, Zhang Xinyue et al. believe that college students' cognition of artificial intelligence will indirectly affect their future employability in the era of intelligence, and Nie Chen et al. believe that college students' acceptance and expectations of the impact of artificial intelligence on future employment will affect their employability. Based on the research results of the above scholars and interview results, combined with social learning theory, this study divides self-regulation into individual cognition and individual acceptance. The reason is that both cognition and acceptance are specific ways of self-regulation. According to social learning theory, the era of artificial intelligence as an external environmental stimulus can be identified, processed and regulated by the acting individual. Based on this, the following hypotheses are proposed:

H2a: Individual recognition has a significant impact on college students' employability.

H2b: Individual acceptance has a significant impact on college students' employability.

Based on the above discussion and the meaning of self-regulation in this chapter, it is evident that self-regulation is a process that not only influences the purpose of action but also affects the process of action. Therefore, it is essential to explore the pathways through which artificial intelligence literacy may impact college students' employability. Hence, the following hypothesis is proposed:

H3: College students' self-regulation has a significant regulating effect on the influence path of artificial intelligence quotient on college students' employability.

This section explains the theoretical basis of this study. This study is based on rational choice theory, social learning theory, social cognitive theory of career and ability structure theory. These theories are the basic framework and guidance principles of this study. In summary, this study proposes a conceptual framework of the impact of artificial intelligence quotient on college students' employability (Figure 1).

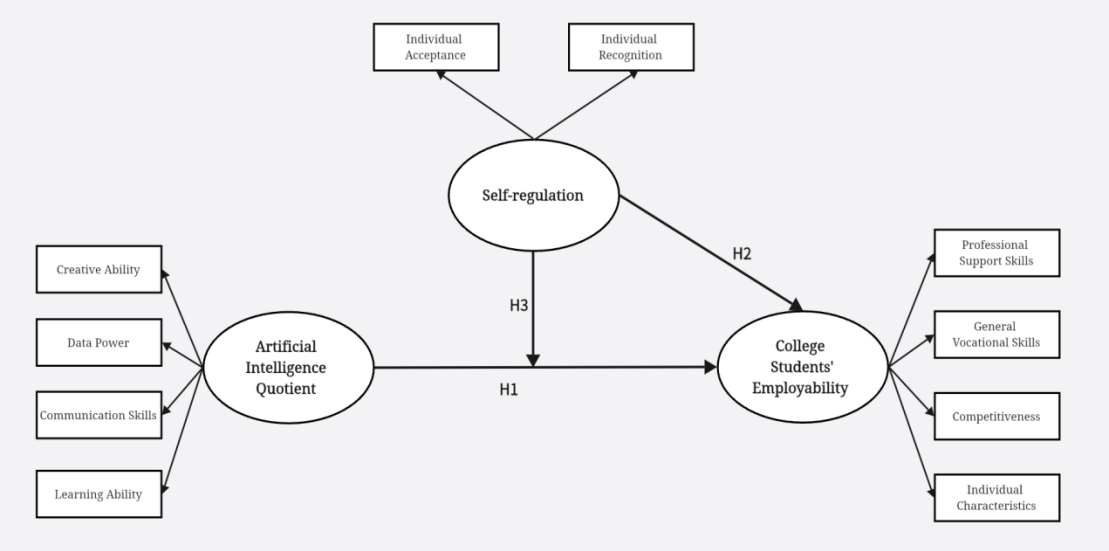

Figure 1 Conceptual Framework

Research Methodology

Sample, Sampling, and Data Collection

The study focuses on graduating seniors from four public universities in Guiyang, Guizhou Province, who are students on campus and facing employment as the main object of our study. The main research method used was a questionnaire through STIU-HREC071/2024 certification. The structured questionnaire of "Research on Influencing Factors of College Students' Employability in the Intelligent Era" was distributed online by electronic platform, utilizing a convenience sampling approach to gather data. The sample size was determined using Cochran's formula, with a confidence level of 95% and an error term of 3%, and the calculated sample size was 1046(Cochrane, 1977). However, a total of

1,753 questionnaires were received. After data filtering to eliminate insincere or incomplete responses, a final sample of 1,581 available responses was included in the analysis.

Data Analysis Methods

In this study, Reliability analysis, exploratory factor analysis and confirmatory factor analysis are carried out on the index system of college students' employability, artificial intelligence quotient and self-regulation. Secondly, AMOS22.0 is used to build a structural equation model to analyze the effects of artificial intelligence quotient and self-regulating variables on college students' employability. SPSS22.0 was used to explore the influence of artificial intelligence quotient and self-regulation on college students' employability, and the adjustment effect of self-regulation variables was analyzed. SEM integrates confirmatory factor analysis and path analysis into a unified framework. It is a multivariate statistical technique utilized to estimate a series of interconnected dependent relationships concurrently (Hair et al., 2013; Sakdapat, 2023).

Results

Descriptive Analysis

Among the 1581 valid questionnaires collected, there were 848 male users (53.6%) and 733 female users (46.4%), the gender distribution of the samples was uniform and suitable for subsequent analysis. 14.5% of the respondents are aged 18-21, 82.7% are aged 22-25, 2.5% are aged 26-30, and 0.3% are aged 31 and above. Fits the distribution of senior graduation age.

This is mainly a questionnaire survey for senior graduates, so the proportion of senior students is 100%. It conforms to the thinking of graduates' employability analysis. in terms of the distribution of majors of the respondents, engineering and science accounted for 35.8%, management accounted for 15%, economics accounted for 12.7%, literature and law accounted for 5.2% and 5.3% respectively, medicine accounted for 5%, philosophy accounted for 4.5%, and education accounted for 3.2%. The proportion of agriculture is 2.8%, and the proportion of art is at least 2%. Among the industries that the respondents want to engage in in the future, the proportion of administrative institutions and information technology industry is higher, respectively 22.2% and 20.6%, manufacturing industry accounted for 17.2%, transportation industry accounted for 6.8%, medical and construction industry accounted for 5.2%, education industry and culture and entertainment industry is little different, respectively 3.1% and 3.2%. Finance accounted for 2.2%, agriculture, forestry, animal husbandry and fishing accounted for the least, only 0.6%. From the observation of the two sets of data, it can be seen that under normal circumstances, the proportion of the major in which they work is close to that of the industry they want to work in the future. For example, the proportion of engineering is 22.1%, which is close to that of information technology industry, which is 20.6%, and the proportion of medicine is just 5.2% in the medical industry, which indicates that the obtained data is relatively accurate and the distribution is reasonable. In the school level of the survey object, the double first-class accounted for 16.6%, the provincial key universities accounted for 57.4%, and the provincial ordinary universities accounted for 26%. The reason why the distribution is concentrated in key colleges and universities is that 2 of the 4 colleges and universities selected are key colleges and universities in the province, which is in line with the actual investigation situation.

Reliability and Validity Assessment

According to Table 2, the Cronbach's alpha values for all constructs exceeded 0.7, indicating satisfactory reliability of the constructs. Validity, on the other hand, focuses on the accuracy of representing the research concept by the measures (Hair et al., 2013). Construct validity was evaluated through convergent validity and discriminant validity. Convergent validity was assessed using Composite Reliability (CR), Factor Loadings, and Average Variance Extracted (AVE). A CR value of 0.7 or higher, along with factor loadings and AVE values of 0.5 or higher, indicate good convergent validity (Hair et al., 2013). As indicated in Table 2, all indicators met these standards, suggesting that the measurement model in this study exhibited good convergent validity. Discriminant validity was evaluated by comparing the square root of AVE of each construct with the squared correlations of other constructs.

Measurement and Structural Model Analysis

The appropriateness of the model was assessed based on the goodness offit index (GFI), where a higher value indicates a better fit between the implied covariance structure of the model and the sample data (Cheung & Rensvold, 2002). The authors initially verified and evaluated the measurement model before proceeding to analyze and fit the structural model. According to the data presented in Table 1, all indices of the model met the evaluation standards, suggesting that the theoretical model proposed in the study was consistent with the actual survey data. This indicates that the implied covariance structure of the model closely resembled that of the sample data, thereby affirming the appropriateness of the model.

Table 1 Fit Indices of structural models

Fit indices	$\chi 2$ /df	GFI	AGFI	CFI	TLI	IFI	RMSEA
Recommended	<3	>0.9	>0.8	>0.9	>0.9	>0.9	<0.05
Structural Model	2.842	0.979	0.971	0.986	0.983	0.979	0.034

Hypotheses Testing

Table 2 shows that the standardization coefficient of creative ability on college students' employability is (β=0.215, $p<0.001$), indicating a prominent significance. It shows that creativity has a significant positive correlation effect on college students' employability, and H1a is verified.The standardization coefficient of data power on college students' employability is (β=0.221, $p<0.001$), indicating a sudden emergence of significance, indicating that data power has a significant positive correlation effect on college students' employability. H1b is assumed to be verified.The standardization coefficient of communication power on college students' employability is (β=0.212, $p<0.001$), indicating that communication skills has a significant positive correlation with college students' employability. H1c is assumed to be verified.The standardization coefficient of learning ability on college students' employability is (β=0. 227, $p<0.001$), indicating significant significance, indicating that learning ability has a significant positive correlation effect on college students' employability. H1d is assumed to be verified.The standardization coefficient of individual knowledge on college students' employability is (β=0.046, $p>0.001$), indicating that individual knowledge has no significant correlation with college students' employability, and H2a is not established. The reason is that, in essence, artificial intelligence is an applied tool, and human beings have a certain cognition of artificial intelligence is only to help them understand what artificial

intelligence is, what it will do, and the relationship between artificial intelligence and themselves, it seems that it can not help people, especially college students, to solve practical problems. In order to improve their employability in the intelligent era, they rely more on practical ideas or actions that can help them to adapt to the intelligent society and be competitive, such as daring to face the impact of artificial intelligence and employment brought by it. Therefore, there is no significant positive correlation between the individual awareness of college students and the employability of college students in the intelligent era.The standardization coefficient of individual acceptance on college students' employability is (β=0.199, $p<0.001$), indicating very significant significance, indicating that individual acceptance has a significant positive correlation effect on college students' employability. Hypothesis H2b is verified.

So far, hypothesis H1a, hypothesis H1b, hypothesis H1c, hypothesis H1d and hypothesis H2b have been verified to be fully valid.

Table 2 Result of Hypothesis Tests

No.	Path	β	Estimate	S.E.	C.R.	P	Result
H1a	CSE<---CA	.215	.160	.023	6.854	***	Supported
H1b	CSE<---DP	.221	.163	.024	6.858	***	Supported
H1c	CSE<---CS	.212	.146	.021	6.811	***	Supported
H1d	CSE<---LA	.227	.182	.026	6.858	***	Supported
H2a	**CSE<---IR**	**.046**	**.033**	**.020**	**1.629**	**0.103**	**Rejected**
H2b	CSE<---IA	.199	.126	.019	6.725	***	Supported

Multi-layer regression analysis

SPSS22.0 was used for model regression analysis to verify the correctness of hypothesis H1, H2 and H3. With the employability of college students as the dependent variable, gender, age, grade, place of origin, major, future industry and school level as the control variables are included in the regression equation, and artificial intelligence quotient variable, self-regulating variable and artificial intelligence quotient * self-regulating interaction term are added step by step for hierarchical regression.

Generally, the test P value <0.05 should be satisfied when using SPSS22.0 for ANOVA. When control variables, artificial intelligence quotient, self-regulation and artificial intelligence quotient * self-regulation interaction terms are added successively, four models are formed. The results of variance analysis are shown in Table 3.

Table 3 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.195	6	1.699	4.082	.000[b]
	Residual	655.206	1574	0.416		
	Total	665.402	1580			
2	Regression	355.437	7	50.777	257.679	.000[c]
	Residual	309.965	1573	0.197		
	Total	665.402	1580			
3	Regression	373.352	8	46.669	251.202	.000[d]
	Residual	292.05	1572	0.186		
	Total	665.402	1580			
4	Regression	380.202	9	42.245	232.701	.000[e]
	Residual	285.2	1571	0.182		
	Total	665.402	1580			

Note: a. Predictive variables: control variables
b. Predictive variables: control variables, AIQ
c. Predictive variables: control variables, AIQ, self-regulation
d. Predictive variables: control variables, AIQ, self-regulation, AIQ * self-regulation

Table 3 shows that the F-value of statistical variables is 136.978, and the significance P-value is less than 0.05, indicating that the overall regression effect of these variables on the employability of college students has reached a significant level.

Specifically, when the control variable is added, the F value of the statistical variable is 4.082, and the significance P value is 0.000, which is greater than 0.05, indicating that the model is significant, which proves that gender, age, grade, native place, major, future industry and school level have no significant impact on the employability of college students.

When the Artificial Intelligence Quotient variable is added, the statistical variable F value is 155.348, and the significance P value is 0.000, which is less than 0.05. The results show that Artificial Intelligence Quotient has significant influence on College students' employment. When Self-regulation variable is added, the F-value of statistical variable is 152.495, and the significance P-value is 0.000, which is less than 0.05, indicating that the model is significant. It shows that Self-regulation has a significant impact on College students' employment.

When the Artificial Intelligence Quotient*self-regulation interaction item is added, the statistical variable F value is 136.978, and the significance P value is 0.000, which is less than 0.05. The results show that the Artificial Intelligence Quotient*self-regulation interaction terms have significant effects on College students' employment.

Table4 Regression coefficient analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	β			Tolerance	VIF
1	(Constant)	3.761	0.111		34.000	0.000		
	Gender	0.000	0.033	0.000	-0.012	0.99	0.958	1.044
	Age	-0.037	0.04	-0.023	-0.913	0.361	0.959	1.043
	Source	-0.072	0.022	-0.083	-3.275	0.001	0.982	1.018
	Professional	0.005	0.005	0.028	1.091	0.276	0.971	1.03
	Future career	-0.014	0.005	-0.073	-2.922	0.004	0.993	1.007
	School level	-0.013	0.026	-0.013	-0.504	0.614	0.964	1.037
2	(Constant)	1.29	0.115		11.232	0.000		
	Gender	-0.03	0.026	-0.023	-1.178	0.239	0.957	1.045
	Age	-0.046	0.031	-0.029	-1.478	0.14	0.959	1.043
	Source	-0.023	0.017	-0.027	-1.353	0.176	0.975	1.026
	Professional	0.002	0.004	0.01	0.507	0.613	0.97	1.031
	Future career	-0.004	0.004	-0.02	-1.008	0.314	0.986	1.014
	School level	0.014	0.02	0.014	0.685	0.493	0.963	1.039
	Artificial Intelligence Quotient	0.671	0.021	0.633	32.352	0.000	0.981	1.019
3	(Constant)	1.015	0.116		8.73	0.000		
	Gender	-0.032	0.025	-0.024	-1.26	0.208	0.957	1.045
	Age	-0.047	0.03	-0.03	-1.553	0.121	0.959	1.043
	Source	-0.012	0.017	-0.014	-0.73	0.465	0.969	1.032
	Professional	0.000	0.004	0.003	0.135	0.893	0.968	1.033
	Future career	-0.003	0.004	-0.016	-0.822	0.411	0.986	1.015
	School level	0.015	0.019	0.015	0.779	0.436	0.963	1.039
	Artificial Intelligence Quotient	0.562	0.024	0.531	23.799	0.000	0.719	1.39
	Self -regulation	0.182	0.021	0.198	8.875	0.000	0.718	1.392
4	(Constant)	0.949	0.118		8.01	0.000		
	Gender	-0.031	0.025	-0.024	-1.237	0.216	0.956	1.046
	Age	-0.049	0.03	-0.031	-1.605	0.109	0.959	1.043
	Source	-0.01	0.017	-0.011	-0.572	0.567	0.966	1.035
	Professional	0.001	0.004	0.003	0.177	0.86	0.968	1.033
	Future career	-0.003	0.004	-0.017	-0.879	0.379	0.985	1.015
	School level	0.015	0.019	0.015	0.788	0.431	0.963	1.039
	Artificial Intelligence Quotient	0.570	0.024	0.538	24.01	0.000	0.71	1.409
	Self -regulation	0.188	0.021	0.205	9.134	0.000	0.71	1.407
	Artificial Intelligence Quotient*Self -regulation	0.066	0.024	0.054	2.768	0.006	0.949	1.054

a Dependent Variable: College student employment

Table 4 shows that, the expression of the regression equation can be determined as follows:

College student's employment=0.949+0.570*Artificial Intelligence Quotient+0.188* Self-regulation +0.066*Artificial Intelligence Quotient*Self –regulation.

Further analysis of the above table shows that the overall P value of control variables such as gender, age, grade, native place, major, future industry and school level is 0.000, which

is greater than 0.05, indicating that the influence of control variables on College students' employment presents no significant level.

The standardization coefficient of Artificial Intelligence Quotient on College students' employment is (β=0.538, p<0.05), reaching a significant level. The results show that the Artificial Intelligence Quotient is positively correlated with College students' employment. Hypothesis H1 has been verified.

The standardization coefficient of Self-regulation is (β=0.205, p<0.05), reaching a significant level, indicating that Self-regulation has a significant positive correlation effect on College students' employment. Hypothesis H2 has been verified.

The standardization coefficient of Artificial Intelligence Quotient* Self-regulation interaction item on College students' employment is (β=0.054, p<0.05), reaching a significant level. The results show that Self-regulation has a significant positive moderating effect on the influence path of Artificial Intelligence Quotient on College students' employment. Hypothesis H3 has been verified.

Through the above analysis, hypothesis H1, H2 and H3 are verified. So far, all the hypotheses in the paper have been verified.

Conclusion and Discussion

Through the analysis of factors affecting the employability of college students in the era of artificial intelligence, combined with the results of data analysis, the following questions in this study have been answered, and the conclusions of this study are summarized and analyzed as follows.

Research Question 1: Does artificial intelligence quotient affect college students' employability?

The results reveal that the artificial intelligence quotient of college students will positively and significantly affect their employability, that is, the employability of individual college students will increase with the increase of their own artificial intelligence quotient, indicating that artificial intelligence quotient is necessary in the era of intelligence, and it has become a standard to measure how long college students can go in the future intelligent society. This is also consistent with the research results of Wang Zuobing, the writer who first proposed the concept of artificial intelligence quotient, which will significantly affect the employability of college students in the era of intelligence.

College students' creative ability data power, communication skills, learning ability and individual acceptance will positively and significantly affect their employability, that is, in the era of intelligence, college students' employability will be significantly enhanced with the enhancement of their own creative ability, data power, communication skills and learning ability, and will also improve with the improvement of their individual acceptance of artificial intelligence. This shows that in the era of artificial intelligence, college students should develop some abilities that cannot be replaced by machines, such as communication and creativity, in order to improve their employability. At the same time, it is also necessary to develop some ability to compete with machines, such as data processing ability, algorithm analysis and application ability, and keep learning with The Times to improve their employment competitiveness.

Research Question 2: Does self-regulation affect college students' employability?

The results reveal that self-regulation will positively and significantly affect the employability of college students, that is the deeper the degree of self-regulation, the stronger their employability. College students' problem awareness and self-regulation behavior will have an impact on their own employability. College students who are good at adjusting themselves to accept new things are more likely to achieve high-quality employment in the intelligent era.

Research Question 3: Does self-regulation regulate the effect of artificial intelligence quotient on employability?

The results reveal that self-regulation has a significant positive regulating effect on the influence of AI quotient on the employability of college students. In other words, adding self-regulation to the path of the influence of artificial intelligence quotient on college students' employability will promote college students to achieve a higher level of employability. This shows that the commanding heights of the future job market are likely to belong to those who have a high artificial intelligence quotient and are good at adjusting themselves to adapt to the trend of social development, which also provides ideas for college students to obtain competitive employability in the era of intelligence.

Theoretical Implication

This study enriches the theoretical framework of AI quotient, explores the relationship between AI quotient and college students' employability, and provides a new perspective for understanding how AI affects individual ability. At present, the research on AI quotient is limited to the college education system, which is mainly used to guide curriculum development and teaching scene setting, so that college students can obtain a higher AI quotient through education, so as to be more competitive and viable in the era of intelligence. However, the relationship between AI quotient and college students' employability is rarely involved. By analyzing the relationship between college students' AIQ and employability, the study provides universities and businesses with insight into future talent needs, helping them better adapt to the rapidly changing job market. The research results can provide guidance for higher education institutions to pay more attention to the cultivation of AI-related skills in the curriculum, so as to improve students' comprehensive quality and employment competitiveness. Help students identify career opportunities in the field of artificial intelligence and guide them to pay more attention to AI-related skills and knowledge in their job search to increase employment rates.

Practical Implication

The study on the impact of college students' artificial intelligence quotient on employability not only provides an important theoretical basis for understanding the needs of modern workplaces, but also provides practical suggestions and directions for students, educational institutions and enterprises. By attaching importance to the training of AI-related skills, college students can better adapt to the future job market and enhance their career development potential.

References

Bandura, A. (1986). Social Foundation of Thoughts and Actions: *A Social Cognitive Theory*. *Prentice-Hall*. (pp. 23-27).

Bandura, A. (1986). *Social foundations of thought and action. Englewood Cliffs,* NJ, 1986(23-28).

Boden, R., & Nedeva, M. (2010). *Employing discourse: universities and graduate 'employability'. Journal of Education Policy,* 25 (1), 37-54.

Browning, G., Webster, F., & Halcli, A. (1999). *Understanding contemporary society: Theories of the present. Understanding Contemporary Society*, 1-520.

Cheung, G., & Rensvold, R. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, 9 (2), 233-255.

Cochran, G. (1977). *Sampling Techniques*. 3rd ed. New York: John Wiley & Sons.

Dacre Pool, L., & Sewell, P. (2007). *The key to employability: developing a practical model of graduate employability. Education+ training,* 49 (4), 277-289.

Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). *Employability: A psycho-social construct, its dimensions, and applications. Journal of Vocational behavior*, 65 (1), 14-38.

Harvey, L. (2001). *Defining and measuring employability. Quality in higher education,* 7 (2), 97-109.

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2013). *Multivariate data analysis.* 7th ed. New York: Pearson Education Limited.

Jackson, D. (2016). *Re-conceptualising graduate employability: The importance of pre-professional identity. Higher Education Research & Development,* 35 (5), 925-939.

Lu Juan, Lu Yan, & Lou Yingchun. (2006). *Service loyalty and its driving factors: An empirical study based on banking industry. Management World*, (8), 94-103.

Lu Min, & Zhu Xiao Mei. (2008). *Research progress of college students' employability.* Modern Economy: Modern Property Second Half, (9), 102-103.

Li, J. J. (2009). Review of Bandura's Social Learning Theory. *Journal of Shayang Normal College*, 10 (3), 22-25.

Li Junkai. (2013). *Research on the model of college students' employment ability structure.* Educational Academic Monthly, (2), 64-67.

Li Ying, Liu Shanshi, & Weng Saizhu. (2005). *The Impact of College Students' Employability on Employment Quality.* Higher Education Exploration, (2), 91-93.

Moreland, N. (2006). *Entrepreneurship and higher education: an employability perspective (Vol. 6).* York: Higher Education Academy.

Ren Xuemei., Li Huifang., & Zhao Jing. (2022). *Research on AIQ talent cultivation + Production and Education integration path in the intelligent era: A case study of Hebei Province.* Shanxi youth.(3)

Rothwell, A., Herbert, I., & Rothwell, F. (2008). *Self-perceived employability: Construction and initial validation of a scale for university students. Journal of vocational behavior,* 73 (1), 1-12.

Sakdapat, N. (2023). The Role of Psychological Factors and Situational Factors on the Financial Planning Behavior of Private Sector Employees in Thailand. *International Journal of Economics and Finance Studies,* 15 (1), 449-465.

Wang Yuhan. (2021). *A study on the influence of Artificial Intelligence Quotient (AIQ) on college students' employability: A case study in Hangzhou University*. Hangzhou Dianzi University.

Wang Zuobing. (2018). *Educational Revolution in the era of artificial intelligence. Education. Beijing:* Beijing United Press Company.

Wang Feng. (2018). *Optimization and empirical research on the employment ability structure of college students based on supply-demand coupling* (Doctoral dissertation, China University of Mining and Technology).

Wang, J., & Wang, X. (2012). Structural equation modeling: Applications using Mplus. John Wiley & Sons. https://doi.org/10.1002/9781118356258

Wang, L., & Yuan, Q. (2011). *Self-regulation theory and the career cognitive growth of college students in job seeking.* Talent Resources Development, (7), 43-45.

Yorke, M., & Knight, P. (2014). *Being strategic about employability.* Educational Developments, 5 (4), 6.

Yu Guoliang. (2010). *Social Psychology. Beijing Normal University Press.*

Yu Xiaoya. (2021). Why to become a future teacher with High AI quotient. Chinese national education.

Zhang Hongzhong, Shi Weiying, & Liu Liming. (2018). *How to understand the impact of artificial intelligence on media industry from the perspective of technical logic.* Press, (2), 17-22.

Zhao Yan, Wan Ping, Yin Yiqing, Li Li, Liu Chenchen, & Wang Youmei. (2020). *The connotation of Artificial Intelligence Quotient (AIQ) in the era of AI, competence Framework and Improvement Strategies: A cognitive survey analysis based on "Artificial intelligence + Education" in universities*. Journal of Distance Education, 38 (4), 48-55.