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An investigation into the development of career chose competence among ninth grade adolescents in Mongolia

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An investigation into the development of career chose competence among ninth grade adolescents in Mongolia

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Abstract - This study explores the development of career choice competence among ninth-grade students in Mongolia, focusing on their career aspirations, planning abilities, career knowledge, and decision-making skills. Grounded in Driesel-Lange's (2020) model, with support from Super (1957), Holland (1959), Krumboltz (1976), and Gottfredson (1981), the study emphasizes the role of self-concept, personality, and environmental factors in career decision-making. The findings reveal that while students demonstrate strengths in career concern, confidence, self-regulation, and problem-solving, they exhibit notable deficiencies in occupational knowledge, self-awareness, planning knowledge, and exploration skills. Furthermore, significant gender differences emerge in problem-solving, career exploration, and career control, highlighting the need for a comprehensive approach that integrates knowledge, skills, and motivation to enhance students' career decision-making competence. This study underscores the critical need for targeted interventions to address these gaps, ensuring a more balanced development of career competencies and equipping students with the necessary tools for making informed and effective career choices.

Keywords: Career guidance, Career Choice, Self-Awareness, Competence

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1. INTRODUCTION

Life is a choice. One of the most significant decisions individuals make in their life is their career choice. However, many individuals struggle with this decision due to differences in their ability to choose a profession. The ability to choose a profession encompasses self-awareness, knowledge of career options, decision-making skills, and attitudes toward career choices. When students select a career path, they are essentially determining their future work and lifestyle. The Constitution of Mongolia [1] explicitly states that "Mongolian citizens ... have the right to freely choose their profession." Additionally, government policy dictates that students in general education schools should be equipped with skills early on to meet the demands of the labor market, employer requirements, and individual interests [3].

Despite these provisions, students often lack the necessary education and preparation to make informed career choices. For instance, while the labor force demand is projected to be 84.6 thousand in 2023 [2], there was a labor force shortage of 42.7 thousand as of 2022 in Mongolia [2]. Furthermore, 29.0 percent of university students are majoring in business, management, and law [4], indicating a shortage of engineers and technicians in the Mongolian labor market. These statistics underscore a mismatch between supply and demand in the labor market and a deficiency in individuals' ability to choose suitable careers. This study is based on Driesel-Lange's (2020) Career Choice Competence Model and supported by theories from Super (1957), Holland (1959), Krumboltz (1976), and Gottfredson (1981), emphasizing self-concept, personality, environment, and learning in career decision-making.

The pressing issue is that despite constitutional rights and government policies, many Mongolian students lack the necessary self-awareness, career knowledge, and guidance to make informed career choices, leading to a mismatch between labor market demands and career decisions.

The primary reasons behind students' inadequate career decision-making abilities include a lack of self-awareness, limited understanding of career options and labor market demands, and insufficient career guidance and education in high schools. Consequently, students may waste time and resources, lose confidence in their future prospects, experience slow career progression, and contribute to societal issues such as unemployment and poverty.

Given the potential repercussions of students' lack of self-awareness and career guidance, it is imperative to assess Mongolian adolescents' competence in selecting careers. This research aims to investigate the career aspirations, goals, planning abilities, and career knowledge and skills of local ninth-grade students in Mongolia and evaluate their competence in career decision-making.

2. THEORETICAL BACKGROUND

The model for determining Career choice competence model developed by Driesel-Lange in 2020 is being implemented in German general education schools to assess each student's career decision-making skills online[8]. Previous studies have examined secondary school career guidance activities, career orientation training for high school seniors [6], and the development of recommendations for Mongolia's career guidance service policy [7]. However, no research has specifically evaluated the career decision-making abilities of middle and high school students.

Article 3.1.2 of the "General Law on Education" emphasizes the acquisition of knowledge, skills, and maturity by students at each level of education. Therefore, to assess the career decision-making competence of general education students, we utilized the model developed by Driesel-Lange in 2020. This model is instrumental in equipping students with the skills to make informed career choices and establish short-, medium-, and long-term career goals.

The model developed by German scientists Driesel-Lange, Ray, S., and Watson, M. (2018) is related to the "Objective 3D" [8] model, which emphasizes three interconnected dimensions of purpose: knowledge, action, and motivation. Successful learning involves analyzing acquired knowledge, skills, and attitudes to determine the level of learning, areas for improvement, and strategies for achieving desired outcomes " [11]. McCowan's "Exemplary Framework Model" focuses on equipping students with fundamental knowledge about various professions within the educational curriculum. It aims to develop their ability to acquire, understand, and apply this information. While the model effectively provides general knowledge, it has notable limitations in cultivating personal attributes, decision-making skills, and intrinsic motivation (McCowan, 2013). In contrast, the "Career Choice Competency Model" by Driesel and Lange presents a more comprehensive approach, utilizing methodologies tailored to students' individual characteristics. This model emphasizes the development of essential competencies, including motivation, stress management, and decision-making skills, ensuring a more personalized and skill-oriented learning experience [12].

The model developed by Driesel-Lange et al.[12] comprises three dimensions and four stages of development. These dimensions are categorized based on their primary characteristics: knowledge, action, and motivation, with each dimension encompassing four factors. Figure-1 illustrates:



Source: Das Berufswahlkompetenzmodell von Driesel-Lange et al. (2020)

Figure-1: Career choice competence model

According to Driesel-Lange et. al[12], knowledge consists of 4 categories: self-knowledge, occupational knowledge, knowledge of prerequisites, and planning knowledge. Self-knowledge: This category refers to an individual's understanding of their skills, talents, interests, strengths, weaknesses, behaviors, characteristics, life goals, and values. Occupational knowledge enhances understanding the world of work, including various professions, industries, job roles, and career paths. Knowledge of prerequisites: This category includes prior knowledge required for vocational training and employment in specific professions. It also enhances understanding of educational requirements, payment conditions, admission processes, and other relevant factors. Planning knowledge includes understanding how to plan and achieve career goals. It is also referred to as career foresight, encompassing the ability to strategize and navigate one's career path effectively.

Driesel-Lange et. al [12] states that motivation is classified into 4 categories: career concern, career control, curiosity, and career confidence. To begin with the career concern: This aspect delves into individuals' apprehensions, hopes, and uncertainties regarding their future career paths. In accordance with them, it encapsulates the dreams they harbor, the expectations they hold, and the anxieties they face as they contemplate their professional journey. Next very important category is career control. At its core, motivation entails a sense of agency and autonomy over one's career trajectory. It involves cultivating traits such as perseverance, independence, and accountability, empowering individuals to steer their professional lives with purpose and determination. Curiosity: Motivation is based on curiosity which is the innate desire to explore and uncover the myriad possibilities within the realm of work and profession. Studies show that it drives individuals to seek out knowledge, delve into different industries, and broaden their horizons in pursuit of fulfilling career paths. Career Confidence: Lastly, motivation is fueled by confidence—the unwavering belief in one's abilities, aspirations, and capacity to succeed in their chosen endeavors. It enhances a sense of self-assurance, clarity of goals, and a steadfast commitment to realizing one's professional aspirations.

In Driesel-Lange's view, action comprises of 4 categories: exploration, self-regulation, problem solving, and stress management. To begin with **exploration**: The ability to delve into various aspects of oneself and the world of work is encompassed by exploration. It involves activities such as actively seeking out information, experimenting with different career options, and formulating plans to achieve career goals. Next very important category is **self-regulation**: The capacity to monitor, evaluate, and adjust one's actions and behaviors is entailed by self-regulation. As they said, it encompasses self-observation, self-awareness, and the adept management of emotions and behaviors in the context of career development. **Problem solving**: Researches consider this skill as a critical skill in career development and the problem solving involves the application of critical thinking, decision-making, creativity, and information processing to address complex challenges. It entails breaking down difficult problems into manageable parts and employing systematic approaches to find viable solutions. **Stress management**: Stress management is essential to navigating the ups and downs of career development. It involves recognizing and understanding stress reactions, effectively managing stressors, and cultivating resilience to mitigate the adverse effects of stress on physical and mental well-being. The model developed by Driesel-Lange et al. (2020) aligns with Donald Super's

Career Development Theory (1950) and emphasizes the progressive development of students' career knowledge, skills, and attitudes across four stages. These researchers explained the four stages elaborately. Namely, the first stage involves aligning one's chosen profession with personal interests, values, goals, skills, and strengths. Subsequently, the second stage entails purposeful and systematic exploration to gain practical career experience, providing a realistic understanding of the professional landscape. In the third stage, individuals engage in a more detailed evaluation of career options, carefully considering their interests, skills, values, and lifestyle before making a final decision. Finally, the fourth stage culminates in the decision to pursue vocational training or higher education to achieve career aspirations.

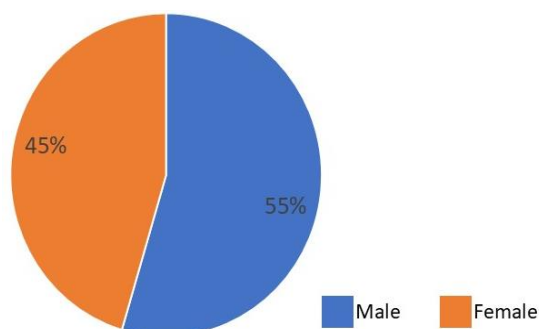
3. RESEARCH METHODOLOGY

The study employed the Model for determining career choice competence developed by German scientist Driesel-Langi (2020), building upon the work of Kaak (2013) and Lipowski (2015). This model comprises 93 questions, categorized into 12 factors and 3 dimensions of "motivation". Responses were evaluated using a Likert scale with four levels: very low, medium, good, and very good.

Prior to the commencement of the research, a pilot test was conducted with 32 students from the 9b group of the 1st school of Orkhon province. Based on the results, necessary adjustments were made to the 93-question questionnaire.

The main survey was carried out in October 2023, involving a total of 196 students from five groups in the 9th grade of No. 5, 10th year of Bayan-Ondur Sum, Orkhon Province, Mongolia. Among the participants, 55% were male and 45% were female.

Table-1. Male-to-female ratio



Group	Number of Students	Occupancy rate
A	41	20.9%
B	41	20.9%
C	39	19.9%
D	44	22.4%
E	31	15.8%
Total	196	100%

4. RESULT

A factor analysis was conducted on the questions pertaining to the dimensions of students' knowledge, motivation, and action. Subsequently, a reliability analysis was performed to assess whether the questionnaire accurately represented the factors. Cronbach's alpha was calculated for 87 questions, as six questions out of the original 93 exhibited low Cronbach's alpha values (<0.7) and were excluded from the analysis. Please refer to Table 1 for factor statistics. Based on Table 1, it is evident that students exhibit higher levels of development in factors such as career concern, career confidence, self-regulation, and problem-solving skills. However, there appears to be a lack of development in factors such as occupational knowledge, self-knowledge, planning knowledge, and exploration skills.

Table-1: Reliability scale and Cronbach's alpha analysis

Dimension	Factors	No	Cronbach's Alpha	N of Items	Mean
Knowledge	Self-knowledge	1.1	0.840	7	2.390
	Occupational knowledge	1.2	0.772	5	2.145
	Knowledge of prerequisites	1.3	0.825	6	2.667
	Planning knowledge	1.4	0.778	5	2.496
Motivation	Career-confidence-1 (vocational choice)	2.1	0.906	12	2.726
	Career control	2.2	0.852	7	2.813
	Career concern-1 (for future career)	2.3	0.782	4	3.216
	Career Confidence-2 (further study)	2.4	0.734	4	2.932
	Career concern-2 (career choice)	2.5	0.777	4	3.091
	Curiosity	2.6	0.673	4	2.568
Action	Exploration	3.1	0.870	8	2.324
	Self-regulation	3.2	0.830	8	2.983
	Problem Solving-1 (Reflecting)	3.3	0.793	6	2.555
	Stress management	3.4	0.794	4	2.732
	Problem solving -2 (when faced with a problem)	3.5	0.716	3	2.820

Chart 1: Indicators for students' career choice

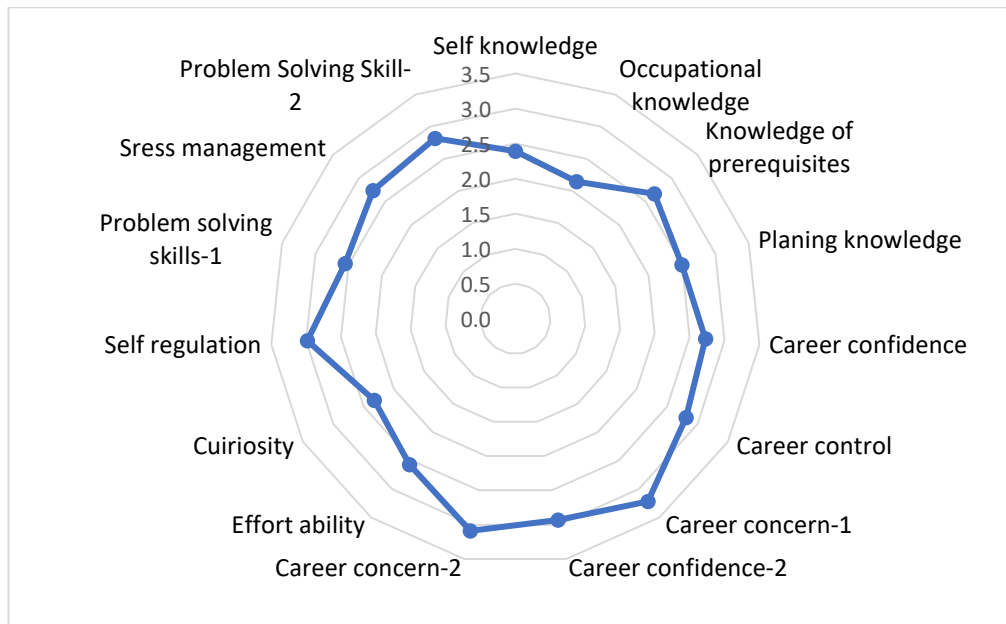


Table 2 illustrates the average values of knowledge and ability indicators for male and female students. While most indicators show similar average values between male and female students, there are notable differences in certain areas. Female students demonstrate higher average values in "career control," "career concern," "curiosity," and "problem-solving" compared to male students.

Upon further analysis to determine if there is a significant difference in knowledge and abilities between male and female students, it was observed that the significance (sig) values for problem-solving (0.028), exploration (0.028), and career control (0.017) were less than 0.005. This indicates that there is indeed a significant difference in these abilities between male and female students.

During the research, 12 main factors were considered. However, certain factors required clarification due to differing interpretations. For instance, "career-confidence-1" refers to "career choice," while "career-confidence-2" denotes "further learning." Similarly, "career concern-1" pertains to "future career," while "career concern-2" relates to "choosing a career." Additionally, "problem-solving -1" signifies "thinking," whereas "problem-solving -2" signifies "when faced with a problem," thus being labeled as 1 and 2 for clarity.

Table-2: Comparative analysis of mean values to determine whether there is a difference in students' knowledge and ability.

Knowledge and Ability		N	Mean	Std. Deviation	Std. Error Mean
Self-knowledge	Male	107	2.4312	0.62331	0.06026
	Female	89	2.3403	0.66537	0.07053
Occupational knowledge	Male	107	2.1589	0.61720	0.05967
	Female	89	2.1281	0.64965	0.06886
Knowledge of prerequisites	Male	107	2.6526	0.64555	0.06241
	Female	89	2.6835	0.70355	0.07458
Planning knowledge	Male	107	2.4822	0.67793	0.06554
	Female	89	2.5124	0.68950	0.07309
Career confidence	Male	107	2.6690	0.59726	0.05774
	Female	89	2.7815	0.73495	0.07790
Career control	Male	107	2.7130	0.62624	0.06054
	Female	89	2.9326	0.65787	0.06973
Career concern-1 (for future careers)	Male	107	3.1355	0.65362	0.06319
	Female	89	3.3118	0.70134	0.07434
Career confidence 2	Male	107	2.9439	0.62317	0.06024
	Female	89	2.9185	0.73737	0.07816
Career concern 2	Male	107	3.0374	0.62646	0.06056
	Female	89	3.1545	0.67788	0.07186
Effort ability	Male	107	2.5070	0.63363	0.06126
	Female	89	2.6404	0.67310	0.07135
Curiosity	Male	107	2.2231	0.68444	0.06617
	Female	89	2.4452	0.71880	0.07619
Self-regulation	Male	107	2.9194	0.49474	0.04783
	Female	89	3.0604	0.66227	0.07020
Problem solving skills 1	Male	107	2.5405	0.58405	0.05646
	Female	89	2.5730	0.65035	0.06894
Stress management	Male	107	2.7921	0.72724	0.07030
	Female	89	2.6601	0.89843	0.09523
Problem Solving Skills-2 (when faced with problems)	Male	107	2.7196	0.69462	0.06715
	Female	89	2.9401	0.69914	0.07411

In Table 3, it can be observed that "career-confidence-1" is strongly positively correlated with indicators such as self-knowledge, knowledge of prerequisites, planning knowledge, and career control. Furthermore, "career control" exhibits a positive correlation with planning knowledge. Additionally, both "career-confidence-1" and "career control" show positive correlations with exploration.

These findings suggest a significant interrelationship between the dimensions of knowledge, action, and motivation. Specifically, the strong positive correlations between "career-confidence-1" and various knowledge indicators, as well as its positive correlation with "career control" and

"exploration," underscore the interconnected nature of these dimensions. In other words, this research proves that the three dimensions of "knowledge", "action" and "motivation" are interrelated

Table 3: Correlation analysis of knowledge and skills

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Self knowledge	1														
Occupational knowledge	.531**	1													
Knowledge of prerequisites	.695**	.610**	1												
Planning knowledge	.682**	.520**	.648**	1											
Career confidence	.706**	.625**	.714**	.750**	1										
Career confidence	.609**	.507**	.616**	.736**	.773**	1									
Career concern-1	.288**	.264**	.370**	.442**	.525**	.494**	1								
Career confidence	.497**	.386**	.514**	.520**	.676**	.574**	.397**	1							
Career concern 2	.420**	.336**	.490**	.457**	.538**	.478**	.635**	.466**	1						
Effort	.315**	.420**	.371**	.479**	.554**	.531**	.338**	.407**	.392**	1					
Exploration	.560**	.575**	.565**	.618**	.712**	.659**	.381**	.490**	.414**	.461**	1				
Self-regulation	.386**	.365**	.454**	.504**	.624**	.546**	.526**	.561**	.522**	.397**	.481**	1			
Problem solving -1	.459**	.492**	.509**	.493**	.641**	.567**	.434**	.560**	.474**	.465**	.551**	.665**	1		
Stress management	.332**	.199**	.321**	.244**	.332**	.161*	.203**	.281**	.252**	-.032	.142*	0.098	0.126	1	
Problem solving -2	.439**	.291**	.389**	.488**	.556**	.518**	.376**	.458**	.434**	.445**	.466**	.601**	.625**	0.096	1

5. CONCLUSION

The present study unveils a profound misalignment between Mongolian ninth-grade students' self-perceived confidence in career-related matters and their actual occupational knowledge. The 38.7% gap between career confidence and occupational understanding highlights a critical challenge: students believe they are well-prepared for career decision-making despite evident deficiencies in practical knowledge. This cognitive distortion has far-reaching implications, as overestimation of career readiness can lead to misjudgments in professional pathways, ultimately affecting long-term workforce participation and economic productivity.

A nuanced analysis of gender-based disparities reveals the influence of socio-cultural constructs on students' career preparedness. Female students consistently outperform their male counterparts in career control, curiosity, and problem-solving, suggesting systemic differences in motivation and developmental opportunities. This imbalance is not a mere statistical deviation but an indicator of deeply ingrained societal and educational structures that may unconsciously privilege or hinder specific competencies. If left unaddressed, these disparities could reinforce long-term inequities in career progression, professional fulfillment, and workforce representation.

Furthermore, this study reinforces the notion that career development is not a linear trajectory but rather an intricate interplay of knowledge, motivation, and active engagement. Despite students demonstrating high confidence and a strong theoretical grasp of career planning ($r > 0.7$), only 38.2% engage in active career exploration. This disconnect suggests a critical bottleneck: while students understand the theoretical importance of career preparedness, they lack structured pathways to translate awareness into meaningful action. The absence of practical application mechanisms—such as guided career exploration, mentorship, and industry exposure—perpetuates a cycle of passive career readiness, where aspirations remain abstract rather than operationalized into strategic career steps.

Traditional career education methodologies, often relying on generic, lecture-based instruction, fail to accommodate the diverse cognitive, social, and emotional needs of students. The findings emphasize that a uniform approach is insufficient; rather, a differentiated, competency-based career education framework is necessary to cater to students' individual strengths, weaknesses, and aspirations. Without such an adaptive model, career planning remains a theoretical construct rather than a transformative, action-oriented process, limiting students' ability to make informed, realistic career decisions.

A key revelation from this study is the undeniable necessity of experiential learning in bridging the gap between career knowledge and action. With career planning knowledge scoring low (Mean = 2.496), students struggle to convert theoretical insights into concrete career steps. This deficiency cannot be rectified through information dissemination alone. Instead, students must engage in authentic career experiences—including internships, job shadowing, mentorship programs, and project-based learning—that provide them with real-world exposure and decision-making opportunities. Without these hands-on experiences, students remain confined to hypothetical career choices, lacking the situational awareness and problem-solving skills necessary for effective career navigation.

Ultimately, this study underscores the urgent need for a paradigm shift in career education. A structured, competency-based framework—grounded in self-awareness, experiential learning, and individualized career development pathways—is essential to transform students from passive knowledge recipients to proactive career decision-makers. This transformation requires a multi-stakeholder approach, involving educational institutions, policymakers, and industry leaders, to construct an ecosystem where students are not merely informed about career possibilities but are equipped with the skills, experiences, and mindset necessary to navigate their professional futures confidently.

This is not merely a call for curriculum enhancement but a fundamental rethinking of how career readiness is cultivated. Without bold, systemic interventions, students will continue to face an uncertain future where confidence is mistaken for competence, and potential remains unfulfilled due to a lack of structured guidance and real-world engagement. Educational reforms must prioritize not only knowledge acquisition but also the cultivation of self-efficacy, adaptability, and active career engagement, ensuring that Mongolian students are empowered to make informed, strategic, and sustainable career choices in an ever-evolving labor market.

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AUTHOR'S INTRODUCTION

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