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Employment Preferences and Career Prospects among Female Madrassah Students: A Case of District Karak, Pakistan

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Abstract

This study investigates the employment preferences and career prospects of female madrassa students in District Karak, Khyber Pakhtunkhwa (KP), Pakistan. The research aims to explore the factors influencing female students' choices among government, private, self-employment, and non-governmental organization (NGO) sectors and madrassa teaching. Using a quantitative approach, data were collected from 410 respondents through a structured questionnaire, and analysis was conducted using multinomial logistic regression through STATA. The results reveal that education level, parental attitude, career guidance, and madrassa education significantly affect employment preferences. Specifically, higher education increases the likelihood of choosing government and self-employment sectors, and supportive parental attitudes and career guidance positively influence students' decision-making. Nonetheless, it was revealed that socioeconomic status and income had a minor effect on the results. The research asserts that educational attainment and parental guidance are the main factors determining the career paths of girls attending madrassas. Still, their chances of getting jobs are decreased due to limited access to professional training and the absence of a job-oriented syllabus. Hence, the authorities need to include vocational and modern education in the madrassa curricula if they want to improve girls' students' employability and career readiness. One of the major drawbacks of this research is the lack of an extensive examination of the madrassa curriculum, which still has to be elaborated into a significant area for future studies.

Keywords: Female Madrassah Students, Karak, Khyber Pakhtunkhwa, Employment Preferences, Career Prospects

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Introduction

Education plays an important role in defining human society. It not only improves individual knowledge and consciousness but also catalyzes development and change. Education begins at birth and continues throughout life. The early years are crucial as they shape future outcomes, but they are largely influenced by family care until school starts (Siddiqui & Munir, 2023). For women, education is more important than for men. Education is valuable in helping them build equal social relations and gain dignity. It also qualifies women to contribute in various sectors, safeguarding their power of speech and ensuring that their concerns are heard in public discussions. Education is essential for developing human resources, increasing efficiency, and making a capable labor force to initiate a country's economic growth. Eventually, the development and happiness of a nation depend on the educational opportunities obtainable to its people, making it an influential instrument for modification (Murtaza, 2013).

In Pakistan, the women population is increasing with time. In Pakistani culture, more investment is made in the education and skill development of boys compared to girls. Women have become an essential part of economic development. For the improvement of economic growth, the importance of women's education is increasing. In Pakistani society, girls are expected to do domestic responsibilities, which require less skill development. As a result, they often obtain fewer resources for health, education, and food. Boys realized as upcoming earners for their parents are considered a safer investment for old-age security (Mehmood et al., 2018).

The word "Madrassah" in Arabic has two meanings: one is “school” in general, and the other refers to an “Islamic institution” that teaches both religious and secular subjects. Madrassahs provide not only religious education but advanced knowledge and formal certifications, known as Ilam *Sanad*. The ilam *sanad* acts as a formal certificate of their academic achievement, enabling graduates to become qualified scholars, teachers, or community leaders (Hajira, 2021a).

The number of female madrassah (Islamic schools) has grown because they offer education for middle-income girls, addressing pressures from economic and cultural changes. These religious schools often provide free or low-cost education. Pakistani culture is a significant component of increasing female madrassah education. As a result, the mixture of economic challenges and cultural preferences has led to a steady rise in women attending madrasas. Since the 1970s, the paper tracks the increase in demand and the number of these schools, reflecting family interest and support from Islamic educators. The recent surge in demand among girls who have already completed secular education (mostly aged 16+) is related to the influence of globalization, development, and media, which expose them to Western ideas of gender equality and the desire for better jobs. In conservative communities, madrassahs are seen as a safe and morally appropriate environment for young women, offering education within the framework of Islamic values. The state has failed to provide enough educational and job opportunities to meet its aspirations (Bano, 2010).

In Pakistan, women make up half of the population. Women can play a crucial role in the workforce, contributing to economic development. We observe that some women receive education in the formal sector, while others obtain it through the informal sectors. In the formal sector, women's career ambitions are clear. This research tries to identify the career aspirations of female madrassah students in Karak district of Pakistan’s Khyber Pakhtunkhwa province. The study further explores how female madrassah graduates can play a significant role in the economic development of Pakistan. This research also investigates the career hurdles of female madrassah students. The present study surveys female madrassah students in Karak by focusing on their preferences regarding employment and career choices. This study thus helps understand the problems and difficulties regarding the employment of female madrassah students and how madrassah education empowers women in society.

Literature Review

Education has a key role in the growth of human society. Not only does it enhance individual knowledge and awareness, but also acts as an inclusive approach for the growth and change of society.

Arguably, there exists a strong relationship between education and women's empowerment, since education empowers women to establish equal social relationships and acquire self-respect. Female education is not being promoted in Pakistan compared to male education. In Pakistan, people mostly focus on male education rather than female education. There are numerous hurdles in the way of female education, which, if matched and coordinated, can open avenues for real change. Education also equips women to participate meaningfully in all walks of life, ensuring that their voices are heard in the public sphere. Education is seen as an ultimate impetus for human resource development and economic growth to promote productivity and generate a pool of gifted manpower required for sustained growth (Murtaza, 2013).

Developed nations prioritize both male and female higher education equally; in developing countries like Pakistan, female higher education remains significantly neglected. Though total enrollment in higher education institutions (HEIs) in Pakistan representation from 0.276 million in 2001–02 to 1.298 million by 2014–15, the Gross Enrollment Ratio (GER) was still just 10% in 2015–16. Female enrollment enhanced from 36.8% to 47.2% by 2014, but so far, true gender equality in higher education remains a reserved goal (Mehmood et al., 2018).

It is pertinent to mention that female madrassa education interconnects with gender customs. While it offers women a path to public religious contribution, their roles are often limited to teaching in madrassas (Bano, 2012).

The madrassa system, with a long history and use of the Arabic language, provides religious education in Pakistan. For some students, it is their only source of formal education, while for others it serves as supplementary learning. However, madrassa students have limited freedom of thought and few job opportunities in the public sector (Zaidi & Nadeem, 2016).

In Pakistan, madrassas provide free religious education and accommodation to students from poor families. However, many graduates face financial difficulties in the job market, especially in today's fast-changing technological environment. Most find low-paying work in mosque management, madrassa teaching, or manual labor. Unlike mainstream schools, madrassas often lack non-religious and technical subjects, and government support remains limited. A study in Khairpur surveyed 250 madrassa graduates using both quantitative and qualitative methods to examine employment prospects. Results showed that graduates struggle to financially support their families. The study recommends government scholarships, recognition of madrassa degrees for academic credit, and vocational training programs to help graduates enter the labor market and improve their quality of life (Junejo & Waheed, 2024.).

Hajira (2021) also looked into the effects of Madrassa education on women's empowerment from the personal and social experience of women. It was meant to investigate how women perceive their education as religious, the duties and responsibilities they assume in society, and the ways in which education affects behavior and decision-making. It basically explores those teachings received in Madrassas, which are behind the empowered action of women, stressing religious and moral teachings to empower. It worked through purposive and snowball sampling techniques, in-depth interviews, to take an anthropological and qualitative research approach in obtaining thorough knowledge of the madrassa environment. The study reveals that women in madrassas are taught not only religious knowledge but also moral values. The changes that were detected in women both before and after education are discussed. Furthermore, it was revealed that there were different motivations for girls joining school, including personal interest, parental pressure, affordability, and availability of buildings that can be used as residences. Reportedly, most women have praised their experience in the Madrassas as facilitating readjustment into various social configurations. It further makes the point that the Madarasa head becomes an important influence through the study of the women's forms of incorporating religious learning into their practices, such as regular praying, respect for elders, fulfillment of family obligations, and adherence to Qur'anic and sunnah values. In its entirety, the study argues that Madrassa education contributes significantly to the social and spiritual empowerment of women.

Methodology

This study employed a quantitative research design to investigate the employment preferences and career prospects of female madrassa students in District Karak, Pakistan. Data were collected through a structured questionnaire survey administered to selected female madrassa students, ensuring representation across different institutions. A random sampling technique was used to target respondents directly relevant to the study's objectives.

Theoretical Framework

This section emphasizes the importance of identifying the specific factors that shape the employment and career preferences of female madrassah students. These preferences have a significant impact on the overall growth of the country and society as a whole. While previous research has addressed this topic, there remains much to learn about the precise factors that influence the career choices of female madrassah students. Additionally, understanding how madrassah education facilitates career development and employment opportunities is essential. This study aims to identify the key variables and mechanisms that drive these processes by developing a theoretical framework. By drawing on established theories and existing research, the study seeks to enhance our understanding of the factors concerning female madrassah students in Karak (Ahmed et al., 2021).

Dependent Variable: Employment Preferences

The dependent variable of this study is preferences for employment. Since the dependent variable (Employment Preferences) is categorical with multiple outcomes (e.g., government job, private job, self-employment, Madrassah teaching), it involves the specific career fields or job types that female student's express interest in pursuing. The study analyzes the labor market preferences of *madrassah* students, focusing on the different streams of careers they aspire. This study explores how female *madrassah* students aspire to engage with the labor market, examining factors that influence their employment opportunities, job types, and economic roles. Understanding these dynamics can help policymakers and educational institutions address any challenges and create more inclusive pathways for *madrassah* graduates in the labor market (*Ahmed et al*., 2021).

Independent Variables

These are the factors that may influence the preferences of female students regarding employment and careers.

Demographic Variables

Demographic variables pertain to population classification, categorizing individuals into various groups for analytical purposes. These variables typically include factors such as age, gender, income, education level, ethnicity, occupation, marital status, and geographic location *(Ahmed et al., 2021).*

Income

Income as a variable is the primary factor that is a determinant of *madrassah* female student preferences toward employment. It affects not only their financial needs but also their aspirations, thus it influences their education, motivation, expectations, and career choices. The monthly average income of parents is a key factor in the choice between public and *deeni (religious) madrassahs*. Lower-income families are more likely to choose *deeni madrassahs* due to affordability, while wealthier families tend to prefer public schools for their children. Income thus has a significant and negative effect on the likelihood of choosing *deeni madrassahs*. (Shah, 2021)

Economic Prospects

The concept of **social finance/earning** for *madrassah* students refers to how they engage in economic activities that generate income while aligning with social, religious, or ethical principles. Many

madrassah students, particularly in regions where Islamic education is central, may be involved in earning a livelihood through occupations that are socially accepted and aligned with religious teachings. These can include working in religious institutions as teachers or scholars, providing community services such as religious counseling, or engaging in halal businesses like trade and small-scale entrepreneurship. Additionally, *madrassahs* sometimes operate charitable or waqf (endowment) systems, where students might receive financial support or contribute to social enterprises that generate income while serving the community. The earning potential of *madrassah* students can vary based on the region, the level of education they receive, and the available opportunities, but their financial activities often link with both social purpose and religion (*Ahmed et al.,* 2021).

Socioeconomic Status

People hailing from higher socioeconomic backgrounds generally enjoy better educational resources, networking opportunities, and financial support, making them have far greater chances of getting into a wider number of employment options and career paths. On the contrary, low socioeconomic backgrounds deprive people of such facilities as limited access to good education, fewer role models in the professional field, and restrictions caused by financial issues that burn one's bridges to certain careers. Economic variables have a huge impact on the education section. Poor economic conditions at both national and family levels restrict spending on education and are a major cause of low literacy rates. Pakistan allocates only 2% of its GDP for educational purposes, which is among the lowest in the region (*Mehmood et al.*, 2018). Socio-economic status is are key indicator for investigative-associated issues. Due to poverty, people send their children to a *madrassah*. Socioeconomic status is determined by factors such as family income, parental education, and occupation. Factors such as monthly family income, housing type, access to drinking water, toilet facilities, cooking fuel, electricity sources, and details of personal or family assets, including agricultural land, are closely tied to a family's spending patterns. In most village households, poverty and marginalization are dominant (Hajira, 2021).

Cultural Factors

Some families hold the belief that girls should not be educated, or that their education should stop at a certain age. Attitudes towards girls' education vary significantly across different communities. Some families are very strict about purdah, driven by cultural, religious, and personal beliefs. To ensure their daughters strictly adhere to purdah, they prefer sending them to a madrassa. In lower-income areas, families that challenge cultural norms by permitting girls to pursue education may face social pressure and hostility. Some girls are withdrawn from school due to the belief that they are too old to be sent outside the home or to school (*Awan & Malik*, 2020).

Career Guidance Availability

Effective career guidance plays a dynamic role in enhancing individuals' self-awareness, empowering them to align their interests, values, and skills with appropriate employment choices. In educational settings, career guidance can help students direct their choices by providing visions of labor market trends, possible job opportunities, and the educational pathways desired to achieve specific career goals. Students normally face challenges when it comes to choosing a career path, and this ambiguity can lead to poor decisions. Many students are insecure about the long-term outcomes of the career options they select, which makes the decision-making procedure difficult. The Government would arrange access to career counseling services or mentorship programs for *madrassah* students. Deprived of a clear understanding of how their choices will impact their future, students might choose careers that do not align with their interests or strengths. This lack of clarity can result in regret or the need to change paths later, causing unnecessary stress and confusion during a critical time in their education (Ombaba et al., 2014)

Parental attitudes

Parental attitudes refer to the beliefs, values, and opportunities that parents hold regarding various aspects of their children's lives, including education, career choices, and personal development. These attitudes can significantly influence children's aspirations, motivation, and decision-making processes. Parental support is crucial for a child's education, as it provides the necessary motivation. In most rural areas of Pakistan, parental participation is especially important for sending girls to school. If parents do not allow their daughters to attend, it becomes unrealistic to expect these girls to pursue and improve their education. Parents' education can play a vital role in children's education. Education requires the combined support of the community, parents, and teachers. In restrictive societies, without parental backing, it is nearly impossible for girls to seek education (*Murtaza*, 2013). Although most parents have a low level of education, typically only primary school, and many grandparents are uneducated, they still make an effort to provide their children with at least a basic education. If not materialistic education, they often ensure their children receive *Madrassah* education (Hajira, 2021b).

Empirics

Research Area

The study is completed using data collectied from the Karak district of Khyber-Pakhtunkhwa, Pakistan. Karak is chosen for this study since it is a less developed and economically poor area with a large number of madrassahs for female education.

Sampling technique

The study employed a simple random sampling technique. The study used simple random sampling due to a homogeneous sample in the region of interest to ensure valid conclusions and improve the representativeness of the sample.

Survey Design

A structured questionnaire was developed to collect data on factors such as demographic variables, income, parental attitudes, career guidance, cultural factors, socioeconomic status, and social finance. The questionnaire includes questions addressing all variables related to employment preferences.

Data Analysis

The data collected from the survey is be analyzed statistically. Multinomial logistic regression (MNL) is used since the dependent variable is categorical with more than two unordered outcomes. In this study, the employment preferences of female madrassa students (e.g., government job, private job, self-employment, *madrassah* teaching) are categorical and do not follow a strict order.

Sample size

The study applies Taro Yamane's formula to determine the sample size, as follows:

n = N/(1+N(e)2) (Efobi & Anierobi, 2013).

In this formula:

- *n* represents the required sample size from the study population,
- *N* refers to the total population under study,
- *N=14032*
- *e* denotes the sampling error
- n = N/(1+N(e)2).
- $= 14032/(1 + 14032(0.05)2)$
- $n \approx 389$

Econometric Model Specification

$$\ln\left(\frac{P(Y=j)}{P(Y=reference\ catagory)}\right) = \beta_0 + \beta_1(DV_i) + \beta_2(EP_i) + \beta_3(I_i) + \beta_4(SES_i) + \beta_5(CGA_i) + \beta_6(CF_i) + \beta_7(PA_i) + \varepsilon_i$$

where;

- Y= **Employment Preferences** (Categorical: e.g., Government job, Private job, Self-employment, Madrassah teaching)
- P(Y=j) = Probability of choosing employment option j.

EMP (Dependent Variable – Employment Preferences)

This is the dependent variable representing employment status or level, which the study aims to describe or forecast based on the other factors.

DV (Demographic Variables)

This might represent various demographic factors such as age, gender, education level, or marital status that may influence employment.

Economic Prospects

Denotes financial tools or structures that are planned to support employment.

Income Variable

In the model, the **income variable** represents the household monthly earnings of respondents. It helps determine whether higher or lower income levels influence female madrassa students' **employment preferences**, such as choosing private or self-employment over government jobs.

SES (Socioeconomic Status)

Socioeconomic status covers the individual's overall social and economic position, typically determined by a combination of education, income, and occupation, and how it influences their employment prospects.

CGA (Career Guidance and Awareness)

This could represent the availability of career guidance, counseling, or awareness programs that help individuals make informed career choices, potentially affecting their employment outcomes.

CF (Cultural Factors)

These are cultural or societal norms and values that may form attitudes toward work, gender roles, or acceptable types of employment.

PA (Parental Attitude)

This refers to the impact of parents' attitudes and expectations regarding employment, which could impact an individual's career choices or employment preferences.

ε (Error Term)

This represents random error or unobserved factors that may affect the employment outcome but are not captured by the variables included in the model.

Table 1: Multinomial Regression Results (Dependent Variable: Employment Preferences)

VARIABLES	(1) Government	(2) Private	(3) Self-employment	(4) NGO
Income	-0.251	-0.0171	0.00682	-0.207
	(0.216)	(0.427)	(0.278)	(0.288)
Socioeconomic status	-0.223	0.0349	-1.079***	-0.215
	(0.272)	(0.471)	(0.327)	(0.363)
Economic Prospects	0.296	-0.821*	0.00143	-0.203
	(0.276)	(0.460)	(0.320)	(0.354)
Parental Attitudes	-1.154***	-1.206**	-0.762*	-0.481
	(0.347)	(0.594)	(0.416)	(0.473)
Cultural Factors	-0.213	0.0713	0.0798	0.248
	(0.276)	(0.504)	(0.349)	(0.405)
Career Guidance Availability	-0.808**	-0.946	-0.672*	-0.439
	(0.324)	(0.596)	(0.387)	(0.438)
Age	-0.340*	0.506*	0.363*	0.218
	(0.191)	(0.289)	(0.210)	(0.240)
Marital Status	-0.491	-0.360	0.000195	0.126
	(0.398)	(0.709)	(0.511)	(0.596)
Employment Status	-0.610	0.00925	-0.818	-0.736
	(0.477)	(0.933)	(0.577)	(0.649)
Income	-0.238	-0.193	0.188	0.142
	(0.147)	(0.282)	(0.175)	(0.196)
Education	0.931***	0.0309	0.533***	0.476***
	(0.127)	(0.228)	(0.153)	(0.172)
Madrassah Education	-0.229**	0.0462	-0.428***	-0.101
	(0.113)	(0.207)	(0.154)	(0.164)
Constant	1.107	-2.180	-1.085	-2.125
	(1.285)	(2.336)	(1.557)	(1.759)
Observations	410	410	410	410

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Authors' Estimation

The multinomial logistic regression model was used to analyze the employment preferences of female madrassa students across four categories — Government, Private, Self-employment, and NGO sectors. The results indicate that several socioeconomic and educational factors significantly influence students' employment choices.

The findings show that socioeconomic status has a significant negative effect on the likelihood of choosing self-employment ($\beta = -1.079$, $p < 0.01$), signifying that students from lower socioeconomic backgrounds are less likely to prefer self-employment compared to those from higher backgrounds. Economic prospects are negatively related to preference for private jobs ($\beta = -0.821$, $p < 0.1$), which demonstrating that students with better perceived economic prospects are less motivated toward private employment.

Parental attitudes show a strong negative effect across all employment categories, like government ($\beta = -1.154$, $p < 0.01$), private ($\beta = -1.206$, $p < 0.05$), and self-employment ($\beta = -0.762$, $p < 0.1$). This means that restrictive parental attitudes reduce the likelihood of female students choosing any formal employment sector. These results show female students employment preferences. Similarly, career

guidance availability negatively affects the likelihood of preferring government ($\beta = -0.808$, $p < 0.05$) and self-employment ($\beta = -0.672$, $p < 0.1$), which suggesting that the lack of guidance facilities discourages female students from considering these options.

Age depicts a favorable huge effect on private ($\beta = 0.506$, $p < 0.1$) and self-employment ($\beta = 0.363$, $p < 0.1$) but a strong opposite influence on government jobs ($\beta = -0.340$, $p < 0.1$). It can be inferred that government jobs are preferred by younger students, while their older counterparts are attracted more towards private or self-employment. The influence of age factor is there on women students' employment choices. Education is the most powerful factor with a huge positive effect on government ($\beta = 0.931$, $p < 0.01$), self-employment ($\beta = 0.533$, $p < 0.01$), and NGO ($\beta = 0.476$, $p < 0.01$) sectors. This means higher education levels not only widen the chances of getting employed but also preferences beyond the traditional religious roles. On the other hand, madrassa education has shown a significant negative impact on government ($\beta = -0.229$, $p < 0.05$) and self-employment ($\beta = -0.428$, $p < 0.01$), which means the longer you study in a madrassa, the less likely you are to be interested in the modern employment sectors. Cultural factors, marital status, employment status, income, and region did not have any statistical significance in the model proposed, therefore, their impact on job preferences within this sample is negligible. In conclusion, education, parental attitudes, socioeconomic background, and age are the main factors influencing female madrassa students' vocational choices, while cultural and income factors are of minor significance as per this model.

Table 2: Multinomial Logistic Regression RRR Results

Employment Preference	Variable	RRR	P-Value
Government	I	0.755	0.198
Government	Socioeconomic Status	0.776	0.356
Government	Economic-Prospects	1.261	0.408
Government	Parental-Attitudes	0.278	0.0
Government	Cultural Factors	0.786	0.389
Government	Career Guidance	0.422	0.008
Government	Age	0.727	0.097
Government	Marital Status	0.619	0.226
Government	Employment Status	0.54	0.197
Government	Income	0.772	0.082
Government	Education	2.518	0.0
Government	Madrassa Education	0.79	0.037
Government	_cons	3.515	0.332
Private	I	0.972	0.948
Private	Socioeconomic Status	1.033	0.946
Private	Economic-Prospects	0.441	0.08
Private	Parental-Attitudes	0.298	0.051
Private	Cultural Factors	1.054	0.917
Private	Career Guidance	0.388	0.116
Private	Age	1.656	0.083
Private	Marital Status	0.717	0.639
Private	Employment Status	1.029	0.975
Private	Income	0.817	0.479
Private	Education	1.023	0.92
Private	Madrassa Education	1.051	0.812
Private	_cons	0.112	0.357
Self Employment	I	0.997	0.992
Self Employment	Socioeconomic Status	0.337	0.001

Self Employment	Economic-Prospects	0.977	0.943
Self Employment	Parental-Attitudes	0.446	0.066
Self Employment	Cultural Factors	1.054	0.881
Self Employment	Career Guidance	0.498	0.075
Self Employment	Age	1.455	0.075
Self Employment	Marital Status	1.005	0.992
Self Employment	Employment Status	0.436	0.149
Self Employment	Income	1.188	0.33
Self Employment	Education	1.699	0.001
Self Employment	Madrassa Education	0.649	0.005
Self Employment	_cons	0.371	0.528
NGO	I	0.793	0.427
NGO	Socioeconomic Status	0.796	0.532
NGO	Economic-Prospects	0.785	0.502
NGO	Parental-Attitudes	0.571	0.26
NGO	Cultural Factors	1.242	0.596
NGO	Career Guidance	0.625	0.288
NGO	Age	1.263	0.334
NGO	Marital Status	1.137	0.83
NGO	Employment Status	0.477	0.253
NGO	Income	1.128	0.543
NGO	Education	1.606	0.006
NGO	Madrassa Education	0.899	0.517
NGO	_cons	0.134	0.255

Source: Authors' Estimation

The multinomial logistic regression using Relative Risk Ratios (RRR) was employed to examine the employment preferences of female madrassa students across four categories which are Government, Private, Self-employment, and NGO and with Madrassa teaching as the base outcome. The results show that several factors significantly affect the likelihood of students' employment preferences in different sectors.

For Government employment, the RRR for Education result indicates that with each unit increase in education level, the likelihood of preferring government jobs increased compared to madrassa teaching. However, Parental Attitudes, Career Guidance Availability and Madrassa Education have RRR values less than 1, showing that restrictive parental behavior, lack of career guidance, and higher exposure to religious education reduce the likelihood of choosing government employment. Similarly, Age also shows a negative relationship, meaning younger students are slightly more likely to prefer government jobs.

In the Private sector, the RRR for Economic Prospects, Parental Attitudes, and Career Guidance are below 1 which shows that better economic conditions and strict parental views discourage students from choosing private employment. However, Age has a positive RRR, suggesting older students are more likely to prefer private sector jobs compared to madrassa teaching.

For Self-employment, Education again plays a positive and significant role which indicates that higher educational attainment increases the likelihood of preferring self-employment. In contrast, Socioeconomic Status and Madrassa Education have significant negative effects which means that students from lower socioeconomic backgrounds and those deeply engaged in religious studies are less likely to choose self-employment.

Finally, in the case of NGOs, Education once again is associated with a strong positive impact, meaning that the better-educated madrassa students are more attracted to the NGO jobs probably due to their close nature with social or welfare causes. Also, the Parental Attitudes, Career Guidance, and

Socioeconomic Status variables have RRR values of less than 1, but these are not statistically significant, thus indicating weaker influence. In summary, RRR findings depict that education is a factor which always boosts the likelihood of preferring the modern job opportunities whereas restrictive parental attitudes, lower-income family, and greater madrassa exposure are all factors that together reduce the chances of opting for government, private, or self-employment over madrassa teaching. Age also has a positive effect on the preference for private and self-employment sectors, implying that maturity leads to greater acceptance of non-traditional job positions.

Likelihood-Ratio Test Results

A likelihood-ratio (LR) test serves to compare paired models, one being simpler than the other and containing additional variables. Then it checks whether those variables improve the model. If the p-value is small (less than 0.05), that is an indication that additional variables improve the model. But if the p-value is large then the simpler model suffices, and added variables bring little extra value.

Table 3: Likelihood-Ratio Test Results

Variable	Chi2	P>Chi2
Employment-Preference	2.262	0.688
Socioeconomic-status	12.306	0.015
Economic-Prospects	4.877	0.300
Parental-Attitudes	14.421	0.006
Cultural-Factors	1.570	0.814
Career-Guidance-Availability	8.641	0.071
Age	15.425	0.004
Employment-status	3.444	0.486
Income	9.121	0.058
Education	74.482	0.000
Madrassa-education	10.639	0.031

Source: Authors' Estimation

Interpretation

Taking into consideration the result(s) of LR test, it is found that maximum variables do not significantly table non-significance at P>0.05, which means they don't contribute much in explaining variation in the dependent variable. The variables are Socioeconomic Status (p=0.016), Parental Attitudes (p=0.006), Age (p=0.003), Education (p=0.000), and Madrassa Education (p=0.029). All these are statistically significant meaning the model has explanatory power but not to all variables. There is no evidence of econometrically severe attributes including omitted variable bias or total misspecification of the model. However, multiple non-significant variables can lower the efficiency of the model. The likelihood-ratio test results indicate that Education is the most powerful factor (Chi2=73.687, p=0.000) powerfully molding madrassa students' employment and career choices. Other attributes such as age (Chi2=16.089, p=0.003), Socioeconomic Status (Chi2=12.184, p=0.016), Parental Attitudes (Chi2=14.279, p=0.006), and Madrassa Education (Chi2=10.763, p=0.029) also prove important with respect to the dependent variable, given the realities of social background and institutional training. Other factors such as Employment Preferences, Cultural Factors, and Marital Status are very weak in terms of explanatory capability, and in fact, do not reach statistical significance in the model.

Measures of Fit for *Mlogit* of Employment-Preference

More overwhelmed by the numerous multivariate analyses available, including the multinomial logistic regression, fit tests seek how much of that model can explain the effect outcome as compared to an empty or null model. Among others, the most popularly used is a likelihood ratio (LR), which looks into the comparison of log-likelihoods between the full and null models. A significant result

means that the predictors improve the model fit. Similarly, one can express pseudo R-squares such as McFadden's R and where R gives an impression in terms of the explanatory ability of the model, albeit usually lower than of those R values in linear regression. The criteria AIC and BIC are also computed; when comparing across models, smaller numbers represent a better fit. With the help of these statistics, we can determine whether the model fits the data well and how strong its explanatory ability is.

Table 4: Measures of Fit for Mlogit of Employment-Preference

Log-Lik Intercept Only	-523.172	Log-Lik Full Model	-364.573
D(335)	729.145	LR(56)	317.199
McFadden's R2	0.303	Prob > LR	0.000
Maximum Likelihood R2	0.539	McFadden's Adj R2	0.160
Count R2	0.363	Cragg & Uhler's R2	0.584
		Adj Count R2	0.008
AIC	2.144	AIC*n	879.145

Source: Authors' Estimation

Interpretation

The results of the measures of fit suggest that the multinomial logit model provides a reasonably good explanation of variation in Employment Preferences among respondents. The likelihood ratio (LR) test is highly significant (Chi2 = 317.199, $p < 0.000$), which means the full model with explanatory variables performs significantly better than the null model with only the intercept. McFadden's R^2 value of 0.303 and the adjusted version of 0.160 show that the model explains about 30% of the variation in employment preferences, which is considered a moderate to strong fit for categorical choice models. The maximum likelihood R^2 (0.539) and Cragg & Uhler's R^2 (0.584) again demonstrate that the model has good explanatory power. The coefficient of determination R^2 has a value of 0.363, indicating that 36 percent of the outcomes predicted by the model are true; however, the adjusted coefficient of determination of 0.008 indicates that much of this true prediction could be considered just a little better than random classification. Clearly, the model selection criteria AIC (2.144) and BIC (-1286.267) were very low, and this means that this model fits better than other larger-value models. In short, the results present further evidence of a reasonable fit with the data, and that education, age, socioeconomic background, and other predictors have shown significance in explaining the employment preferences of madrassa students.

The diagnostic tests and model fit statistics together indicate that the multinomial logit model used to explain Employment Preferences among madrassa students is statistically valid and robust. The highly significant likelihood ratio test (Chi2 = 317.199, $p < 0.000$) affirms that joint contributions of predictors improve the models as compared with a null model, thus establishing the overall relevance of the predictors. Model fit indices also strengthen the evidence of validity. McFadden's R^2 of 0.303, considered a good fit for discrete choice models (where values between 0.2 and 0.4 are common benchmarks in econometrics), shows that the model explains a substantial portion of variation in Employment Preferences. Cragg & Uhler's R^2 (0.584) and the maximum likelihood R^2 (0.539) provide further confirmation of strong predictive power. Additionally, the low AIC (2.144) and favorable BIC values indicate an efficient balance between model complexity and explanatory strength. From an econometric perspective, there is no evidence of serious specification errors or lack of model fit. Multicollinearity is unlikely given the significance of multiple independent predictors across different categories, and heteroskedasticity is not a concern under the multinomial logit framework, where maximum likelihood estimation remains consistent. Consistent with findings in applied econometric literature and similar studies on educational and labor market outcomes, these diagnostics collectively suggest that the model is statistically sound and the results are valid, with no major econometric problems undermining the conclusions.

Conclusion and Recommendations

Knowledge transfer, guidance systems, and facilities are all desired ends with respect to the education set-up, and education stands as an important factor for every sector of the economy. With the correct information, support, and resources, students can relate to and adapt to modern technological environments and link up with other sectors of education. The education sector certifying these essentials makes it possible for students to diversify their skills, adapt to changing environments, and equip themselves for future opportunities. The principal purposes of the present research were to appreciate the varying preferences of students regarding employment. The study aims to explore the employment preferences and career prospects of the female madrassa students of the District Karak. The research is also about the socioeconomic background of the students and their levels of education (both religious and secular), and how they influence their choices in careers. Employing a quantitative analysis of survey data through the Multinomial logistic regression modeling, this study informs the reader about the challenges and opportunities faced by madrassa graduates.

The findings of this study provide significant insights into the employment preferences and career prospects of female madrassa students in District Karak, Khyber Pakhtunkhwa. The multinomial logistic regression and RRR results point out that a blend of educational, socioeconomic, and cultural factors forms the employment choices of these students in the categories of government, private, self-employment, NGO, and Madrassa teaching sectors, by the order of these factors. Education turned out to be the most powerful factor among all variables that significantly and positively influenced the probability of choosing government, self-employment, and NGO jobs. It means that the higher the education level of female madrassa students, the wider their career aspirations toward not only traditional religious roles but also to a variety of professional employment opportunities.

On the other hand, parental attitudes and availability of career guidance have negative and significant correlations with the preferences for different employment categories, thus reducing the students' choices in these sectors. Limited access to proper career counseling reduces their awareness and confidence in exploring professional options. Similarly, madrassa education has a negative impact, particularly on government and self-employment preferences, implying that the more religiously oriented students are, the less likely they are to seek work outside madrassa or religious institutions.

Socioeconomic status is indeed an important factor. It is almost certain that students coming from low-income and lower-socioeconomic backgrounds will not look for jobs in self-employment or NGOs because of the lack of financial support and exposure to these fields. The eco nomic prospects of the sector negatively influence the students' preferences for private employment. It is possible to say that for the students who see little or no economic advantage in working in the private sector, the choice of such employment is generally avoided. At the same time, age played an ambiguous role: the elder students manifested more interest in the private and self-employment sectors, while the younger ones were more inclined toward government jobs.

The study as a whole find that the employment preferences of women madrassa students are not only determined by individual factors such as education and age but also by social and cultural factors, including parental control, limited career guidance, and the type of religious education they receive. The results point out the necessity of policy action, which would include not only the introduction of career counseling programs, vocational training, and educational reforms in the madrassas but also the awareness raising of parents and communities about the importance of women in different kinds of employment and thus, the removal of the cultural barriers and the empowerment of female madrassa students to be able to make and be in charge of their career choices, which are not only informed but also independent.

More importantly, the overall model achieved statistical significance, which demonstrates that the independent variables included in the analysis collectively improved the prediction of employment choices. This means that the educational, social, and demographic characteristics of female madrassa students play a meaningful role in shaping whether they consider alternatives such as government, private, or NGO employment, instead of strictly pursuing madrassa teaching. The pseudo R^2 value of 0.303 indicates that nearly one-third of the variation in employment preferences is explained by the

predictors used in the model. In the context of social science research, this is considered a strong level of explanatory power, showing that the model successfully captures several important dynamics influencing career decisions.

The log-likelihood value further substantiates the sufficiency of the model in that it indicates that the predictors significantly contribute to improving the fit of the model over that with no predictors. This signals that the chosen variables are relevant and meaningful in distinguishing employment pathways. All the findings illustrate the fact that madrassa teaching is, by a long way, the preferred and most likely employment avenue. There is measurable, if very limited, movement away from this towards alternative forms of employment, though, depending on individual and contextual factors. Clearly, these findings highlight the structural barriers to a broader job-market access for female madrassa students and also reveal the need for educational reform, skill development, and career guidance for such students in widening their opportunities.

From all the above discussions, we conclude that poverty and the parental attitudes had an influence on the students' job choices and future career plans. Poor children very frequently change their job preferences depending on the social and financial situation of the family. Students of religious schools fail to get proper career counseling, and their qualifications do not carry much weight in the job market. Consequently, they have to face obstacles in getting good jobs unless they go through universities that are recognized by the government. Quite a few students enter religious schools because their families cannot pay for the regular schools. After finishing religious school, the majority of them again start teaching in religious schools as there are very few jobs and facilities in the open job market. Alternative career paths, if at all, remain largely unknown to most students of madrassas, and their degrees would hardly open any doors for them in the job market. Even in cases where their qualifications might be acknowledged or accepted, they often live in ignorance of such possibilities because of no proper career guidance and information being provided to them. Thus, it can be said that students from madrassas have no idea about different jobs or careers outside the religious institutions. Since madrassas concentrate exclusively on religious learning, students are given almost no help or advice as to how their education might be applicable to other professional areas. The reluctance of government and private sectors to accept their degrees further narrows down the career paths they can choose from. However, in specific locations or institutions where madrassa certificates would be helpful, such as teaching religion, translation, or studies of Islam, the students will still not get the benefit of their qualification because they cannot get career counseling or are not informed about such possibilities. Thus, many gifted students are unaware of the fact that there are positions that can develop their professional and economic status.

Recommendations & Future Direction

Future work should be based on the following goals

1. Future studies should conduct large-scale surveys across different districts of Pakistan to assess the employment opportunities available to female madrassa students and to identify effective accountability mechanisms that ensure continuous communication between madrassa authorities and government bodies.
2. A comparative study should explore how students in registered and non-registered madrassas perceive modern education and employment prospects, highlighting differences in career readiness.
3. Research should examine strategies for reducing the educational seclusion of madrassa students and for creating platforms where female students can interact with peers from schools, colleges, and universities, enhancing their career exposure.
4. Future work should evaluate how government funding, curriculum reforms, and integration of general education into madrassas can improve female students' employability, including exposure visits to formal institutions and skill development centers.

5. Further research may also analyze the role of social, print, and electronic media in shaping positive public perceptions of madrassa students and in promoting their career aspirations beyond traditional teaching.
6. Research should focus on collaboration between madrassa and modern education administration in the design of teacher training programs in non-formal education skills to better equip women for diverse employment opportunities.
7. Specific career counseling sessions should be held for madrassa female students to introduce them to job opportunities beyond teaching, in the government, private and NGO sectors.
8. Vocational and technical training programs should be incorporated into madrassa studies to equip females with contemporary skills so that they could compete better with other job hunters.
9. The government should plan policies that identify madrassa education as equivalent to formal education at different levels, confirming female madrassa graduates have equal access to jobs in government departments.
10. Madrassas should cooperate with universities and training institutes to provide cross programs, empowering students to follow higher education or professional courses alongside religious studies.
11. Awareness campaigns should be planned in District Karak to inspire families and communities to support diverse career choices for female madrassa graduates, dropping the cultural preference for preventing them from being confined only to teaching roles.
12. NGOs and private organizations should be encouraged to create targeted employment opportunities for female madrassa students, especially in community work, health, and social development projects.
13. Further research should be conducted to monitor the employment designs of female madrassa graduates. This will help policymakers and madrassa administrators update programs and support systems in line with changing job market demands.

Limitation of the Study

This study's main drawback is that it gives more attention to the employment preferences and career prospects of female madrassa students, but does not go into the details of the madrassa curriculum. Since the curriculum is a key factor in the development of the student's knowledge, skills, and employment attitudes, its non-inclusion restricts the comprehension of the influence of educational content and teaching practices on students' career aspirations. Future studies ought to comprise a complete examination of the madrassa curriculum to discover how its structure, subjects, and teaching methods affect students' readiness for various job sectors. Additionally, policymakers should put more emphasis on the curriculum reform, so that it not only retains religious education but also brings in skill-based and career-oriented subjects to grow the job market of female madrassa students.

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