RESEARCH ARTICLE

Child Poverty and Educational Access: A Gender Perspective in Kazakhstan

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Abstract

Access to education for girls is among the global challenges strongly linked to poverty reduction, economic development, and social equity. Despite progress in narrowing gender disparities, significant gaps persist in regions where economic and demographic pressures prevail. In Kazakhstan, these challenges are compounded by uneven access to education, income disparities, and demographic dynamics. The current study explored the socio-economic and demographic factors influencing poverty levels and access to education. Six hypotheses were developed to analyze relationships between demographic structures, household income and expenditures, and educational access focusing on girls. Multivariate and univariate analyses assessed their impact on poverty depth and severity, preschool and secondary education coverage, and enrollment rates. The findings revealed that boys aged 0–14 significantly influenced poverty levels, while girls in the same age group showed no comparable effect. This reflects societal norms prioritizing boys' education due to their perceived role as breadwinners, while girls are often deprioritized. Household income was also confirmed as a key determinant of access to education, particularly at the primary level, which forms the foundation for future opportunities. The results highlight the necessity of establishing strong social values and institutions that promote gender equality and women's empowerment. The absence of such an environment hinders progress toward achieving the goals of gender equality.

1. INTRODUCTION

Poverty and inequality remain among the most pressing challenges on the global stage, particularly in developing and transitioning economies. Poverty reduction and gender equality are foundational pillars of the Sustainable Development Goals. According to the World Bank, as of 2022, more than 9% of the global population - approximately 700 million people - live on less than $2.15 per day, with children and women disproportionately affected. Girls and women often face restricted access to education, healthcare, and employment opportunities. Addressing child and gender poverty can have transformative effects, improving individual outcomes and broader societal prosperity.

In this context, education is important as both a driver of and a solution to poverty reduction. Access to quality education, especially for girls, affects health and income levels. Nevertheless, significant disparities persist; UNESCO reports that as of 2021, 129 million girls worldwide remain out of school, with poverty being the primary barrier. Regions where economic growth is uneven, social support systems have insufficient access to education, and gender equality are bridge gaps in access to education.

In Kazakhstan, the issue of poverty with a focus on gender and education is particularly salient. According to the Bureau of National Statistics, the poverty rate in Kazakhstan increased from 4.3% in 2019 to 5.3% in 2021, primarily due to the economic shocks of the COVID-19 pandemic (Duisenbekova et al., 2024). Annually, women's educational earnings increase by approximately 10%, directly contributing to GDP growth and reducing poverty at the household level. However, barriers such as limited access to affordable preschool education, high out-of-pocket costs for households, and disparities in income between rural and urban areas remain significant.

Recognizing these pressing issues, the present study aims to explore relationships between socio-economic and demographic factors and their impact on poverty and education access, focusing on girls and women in Kazakhstan.

2. LITERATURE REVIEW

The relationship between socio-economic factors, demographic dynamics, and poverty has been extensively studied. Existing research discusses the role of education as a critical pathway out of poverty, particularly for women and girls. Demographic shifts, particularly changes in the working-age population, have also been identified as key drivers of economic stability and poverty reduction. Additionally, differences in retirement ages between men and women potentially exacerbate poverty risks for families with children. Expenditures on education and basic needs are often shown to play a mitigating role in navigating economic challenges.

The global importance of gender equality in education is placed on reducing poverty and fostering sustainable development. Education acts as a transformative tool, providing girls with better opportunities and equipping them to contribute effectively to economic and social progress. Hence, education equips individuals with essential skills and knowledge to improve their socioeconomic standing; education for all, particularly girls, is imperative for poverty reduction (Burnett, 2008; Awan et al., 2011). Tyer-Viola and Cesario (2010) stated that there is a strong relationship between education, poverty, and gender equality, enhancing women's health and well-being along with strengthening societal resilience. Therefore, access to early and foundational education for girls is an essential indicator of societal commitment to gender parity. Somani (2017) further defined delayed marriage, reduced child mortality, and higher earnings as crucial outcomes of access to education for breaking intergenerational poverty cycles. Wei et al. (2021) extended that decision-making power and access to economic resources come with access to education and significantly reduce income and multidimensional poverty.

The relationship between demographic dynamics and economic stability has also been a focus of scholarly inquiry. Gender has a significant role in aggregate saving and economic stability, according to Seguino and Floro (2003). Thus, higher dependency ratios disproportionately increase the economic burdens borne by women within households. Yenilmez (2015) stated that demographic shifts to a growing strain on household resources and public support systems, particularly in contexts where gender disparities persist. Loichinger et al. (2017) further explored how variations in dependency ratios across age and gender groups directly affect economic outcomes at both household and national levels. As a solution, Barta and Novoszáth (2024) focused on the issue of declining fertility rates and retirement age adjustments to mitigate the economic challenges associated with declining working-age populations. Thus, shifts in working-age and retirement-age populations affect household economic stability.

Regarding household income and expenditure patterns, there is a relationship between disparities in education, economic resources and poverty reduction. Education-focused government expenditures in poverty reduction are significant, as reallocating educational resources enhances human capital and contributes to economic development (Odior, 2014). Therefore, there is an excellent need for balanced household expenditures in education and living standards, which could be achieved through equitable infrastructure investment (Chotia & Rao, 2017). Lastly, Heshmati et al. (2019) analyze household consumption expenditure determinants in India, illustrating how education levels, household size, and gender significantly influence poverty outcomes. Yu and Li (2021) emphasized that social security expenditures help to reduce rural poverty in China and soften economic challenges. Therefore, inclusive and education-centric expenditure strategies to mitigate poverty effectively are becoming the agenda of the current economy.

Demographic pressures, income inequality, and expenditure disparities underline the complex socio-economic environment influencing poverty and education access. This study aims to address gaps in the literature by examining how Kazakhstan's unique demographic and economic dynamics—such as shifts in working-age populations, retirement age differences, and income disparities—affect poverty and educational access for girls and women. The following hypotheses were developed.

1. Increasing the proportion of children (0–14) significantly affects poverty levels.
2. Reduction in the working-age population negatively impacts preschool and secondary education access.
3. Differences in retirement age influence child poverty and access to education.
4. Household income and expenditures significantly affect poverty levels.
5. Household income and expenditures impact access to preschool and secondary education for boys and girls.

2. METHODOLOGY

The literature review revealed some issues that are the focus of poverty alleviation solutions. Most reviewed words emphasized access to education, income, and access to education. An increasing body of knowledge is paying increasing attention to the gendered aspect of existing challenges. Therefore, based on the review, key indicators for current research were selected.

Table 1 summarizes all the indicators used in this study.

The table shows the main age categories chosen for the analysis. The data address differences in age groups, particularly those distinguishing men and women based on pension age. Working age and pension age groups, differentiated by gender (61 for women, 63 for men), reflect societal structures, such as labor market participation, pension systems, and economic responsibilities, which influence household resources and the ability to invest in children's education.

TABLE 1. Selected indicators

Indicator description	Code	Unit
Number of girls in preschool organisations	PG0-7	Thousand
Number of boys in preschool organisations	PB0-7	Thousand
Gross preschool coverage rate (girls)	PR-W	%
Gross secondary education coverage rate (girls)	SR-W	%
Median income of population	MI	Tenge
Depth of poverty	DPOV	%
Severity of poverty	SPOV	%
Population under 14 years (boys)	M14	Thousand
Population under 14 years (girls)	W14	Thousand
Population between working and pension age (men 63)	M-63	Thousand
Population between working and pension age (women 61)	W-61	Thousand
Population above pension age (men 65)	M-65	Thousand
Population above pension age (women 63)	W-63	Thousand
Household income used for consumption per capita, tenge	HHCINC	Tenge
Population income used for consumption per capita per month, tenge	PCINC	Tenge
Household monetary expenditures per capita per month, tenge	HHCEXP	Tenge
Per capita nominal monetary income, tenge	HHNINC	Tenge
Real income index, %	RII	%
Population monetary expenditures per capita, tenge	PEXP	Tenge
Household income used for consumption per capita, tenge	HHCINC	Tenge

Note: compiled by authors

Preschool and school-age categories explore access to education, which is fundamental for addressing inequalities and long-term opportunities.

Additional demographic groups are included to analyze broader dependencies and economic pressures. Income and expenditure indicators, such as median income, consumption expenditures, and poverty, are selected to evaluate households' financial capacity and the severity of poverty.

In Table 2 there are presented developed groups of sub-hypotheses

TABLE 2. Sub-hypotheses

No	Dependent Variable	Independent Variables	Sub-Hypothesis
1	DPOV	M14, W14	Increasing the proportion of the population aged 0–14 increases poverty levels.
	SPOV		Increasing the proportion of the population aged 0–14 increases poverty levels.
2	PR-W	M-65, W-65	Reducing the working-age population (15–65) increases the economic burden and negatively affects access to education.
	SR-W		Reducing the working-age population (15–65) increases the economic burden and negatively affects access to education.
3	DPOV	W-61, M-63, M-65, W-65	Differences in retirement ages (15–61 for women and 15–63 for men) affect child poverty levels.
	SPOV		Differences in retirement ages (15–61 for women and 15–63 for men) affect child poverty levels.
	PR-W		Differences in retirement ages (15–61 for women and 15–63 for men) affect access to preschool education.

	SR-W		Differences in retirement ages (15–61 for women and 15–63 for men) affect access to secondary education.
4	DPOV	HHCINC, PCINC, PEXP, MI, RII	Income and expenditures influence poverty levels (depth and severity).
	SPOV		Income and expenditures influence poverty levels (depth and severity).
5	PR-W	HHNINC, HHCEXP	Household income and expenditures influence preschool education coverage rates.
	SR-W		Household income and expenditures influence secondary education coverage rates.
	PG0-7		Household income and expenditures influence the number of girls in preschool.
	PB0-7		Household income and expenditures influence the number of boys in preschool.

Note: compiled by authors

MANCOVA analysis was conducted to test hypotheses, including multivariate and univariate tests. Indicators were deliberately repeated across multiple hypotheses to ensure a comprehensive analysis and to explore the contributions of men and women to education access, focusing on girls.

3. RESULTS AND DISCUSSION

The contribution of women and men to children's access to education differs significantly, and understanding the nature of their roles from an economic perspective is crucial. The analysis revealed that while financial burden is one of the critical factors, it is influenced by additional variables not included in this study. However, the results suggest that cultural habits, traditions, and societal perceptions are as influential as financial capability. Furthermore, the findings indicate that these impacts vary depending on the stage of education, highlighting their interchangeable influence over time. One of the major conclusions is that household income plays a pivotal role in shaping children's future, as it directly affects access to primary education, which forms the foundation for further educational and professional opportunities. The results aligned with the main hypotheses to provide better clarity and organization.

Hypothesis 1 proposed that increasing the proportion of children (0-14) would result in higher poverty levels, measured in depth and severity. The hypothesis was partially confirmed (Table 3).

TABLE 3. Impact of population aged 0–14 on poverty levels

Model 1	Multivariate Tests				Univariate Tests					
	Test	value	F	p	Dependent Variable	Sum of Squares	df	Mean Square	F	p
M14	Pillai's Trace	0.858	21.07	0.001	DPOV	0.3993	1	0.39929	48.148	<.001
	Wilks' Lambda	0.142	21.07	0.001	SPOV	0.0353	1	0.03526	28.038	<.001
W14	Pillai's Trace	0.268	1.28	0.336	DPOV	0.0144	1	0.01436	1.732	0.225
	Wilks' Lambda	0.732	1.28	0.336	SPOV	1.32e-4	1	1.32e-4	0.105	0.754
Residuals					DPOV	0.0663	8	0.00829		
					SPOV	0.0101	8	0.00126		

Note: compiled based on calculations

The multivariate tests showed a statistically significant impact of the proportion of boys on poverty levels, with both tests yielding p-values less than 0.001. The group of boys significantly influenced both the depth of poverty ($F = 48.148$, $p < 0.001$) and its severity ($F = 28.038$, $p < 0.001$). An increase in the share of boys in this age group contributes substantially to the observed levels of poverty, both in terms of depth and severity. Conversely, the proportion of girls did not exhibit a statistically significant effect on poverty levels. The multivariance results did not reveal meaningful impacts. The univariate analysis showed that the depth of poverty or its severity is not affected by the girls' group of indicators. Thus, according to the results, girls in this age group do not impose a measurable economic burden on households, raising questions about the differing socio-economic dynamics associated with boys and girls.

The significant impact of boys (0–14 years old) on poverty levels in society and the economy. First, this finding aligns with the societal perception of men as primary breadwinners, where their level of education directly influences career opportunities and, consequently, income levels. Second, the actual situation in male-dominated countries, including the primary position of head of a family, persists. In this case, women's economic roles are undervalued. Therefore, it is more often the case that girls are de-womanized in social norms. To these norms and standards, we relate to access to education, reflecting those societal norms limit the perceived economic significance of women. As a result, boys' educational opportunities and outcomes are more strongly associated with gender levels, reinforcing these gendered dynamics.

Hypothesis 2 proposed that a reduction in the proportion of the working-age population (represented by men and women) increases economic burdens on households and negatively impacts access to education, as measured by preschool and secondary education rates. The results are presented in Table 4.

TABLE 4. Effect of working-age population on educational access

Model 2	Multivariate Tests				Univariate Tests					
	Test	value	F	p	Dependent Variable	Sum of Squares	df	Mean Square	F	p
M-65	Pillai's Trace	0.571	4.66	0.052	SR-W	5.76	1	5.764	8.943	0.017
	Wilks' Lambda	0.429	4.66	0.052	PR-W	12.08	1	12.078	0.763	0.408
W-65	Pillai's Trace	0.563	4.52	0.055	SR-W	2.10	1	2.103	3.262	0.109
	Wilks' Lambda	0.437	4.52	0.055	PR-W	162.22	1	162.218	10.245	0.013
Residuals					SR-W	5.16	8	0.645		
					PR-W	126.67	8	15.834		

Note: compiled based on calculations

The multivariate tests for the proportion of working-age men approached significance, with Pillai's Trace and Wilks' Lambda yielding $p = 0.052$, indicating a potential influence on educational outcomes. The univariate analysis showed that for secondary education rates for girls, the effect of the male working-age group was significant ($F = 8.943$, $p = 0.017$). A reduction in this population group could negatively impact access to secondary education. However, for preschool education rates for girls, the effect of the male working-age population was nonsignificant, implying no measurable impact on access to preschool education.

For the proportion of working-age women, the multivariate tests showed a similar pattern to that of men. The univariate results, however,

presented contrasting findings. For preschool education rates for girls, the effect of the female working-age group was significant (F = 10.245, p = 0.013). Conversely, there was no statistically significant impact on secondary education rates for girls. The hypothesis was partially confirmed, showing differing roles and economic contributions of men and women within households and their respective impacts on children's educational opportunities. However, it must be considered that in countries dominated by specific cultural habits with the dominating position of men as breadwinners, women tend to stay at home and manage the preschool period in bringing up their children. However, as children are old enough and go to secondary school, women continue their careers and share the financial burden with their husbands.

The third hypothesis proposed that differences in retirement age and working age population would influence child poverty levels and access to education. The results are presented in Table 5.

TABLE 5. Influence of retirement ages on poverty and education

H 3	Multivariate Tests				Univariate Tests					
	Test	value	F	p	Dependent Variable	Sum of Squares	df	Mean Square	F	p
M-63	Pillai's Trace	0.896	6.453	0.079	DPOV	0.33900	1	0.33900	36.1480	<.001
					SPOV	0.03410	1	0.03410	24.6953	0.003
	Wilks' Lambda	0.104	6.453	0.079	SR-W	5.86423	1	5.86423	7.3936	0.035
					PR-W	13.41166	1	13.41166	0.6736	0.443
W-61	Pillai's Trace	0.757	2.340	0.255	DPOV	4.92e-4	1	4.92e-4	0.0525	0.826
					SPOV	4.63e-4	1	4.63e-4	0.3356	0.583
	Wilks' Lambda	0.243	2.340	0.255	SR-W	2.27344	1	2.27344	2.8664	0.141
					PR-W	88.16223	1	88.16223	4.4278	0.080
M-65	Pillai's Trace	0.599	1.121	0.482	DPOV	0.04798	1	0.04798	5.1160	0.064
					SPOV	0.00126	1	0.00126	0.9139	0.376
	Wilks' Lambda	0.401	1.121	0.482	SR-W	0.11554	1	0.11554	0.1457	0.716
					PR-W	39.85657	1	39.85657	2.0018	0.207
W-65	Pillai's Trace	0.536	0.867	0.570	DPOV	0.03626	1	0.03626	3.8661	0.097
					SPOV	0.00134	1	0.00134	0.9694	0.363
	Wilks' Lambda	0.464	0.867	0.570	SR-W	0.01122	1	0.01122	0.0141	0.909
					PR-W	40.07356	1	40.07356	2.0127	0.206
Residuals					DPOV	0.05627	6	0.00938		
					SPOV	0.00829	6	0.00138		
					SR-W	4.75886	6	0.79314		
					PR-W	119.46506	6	19.91084		

Note: compiled based on calculations

The multivariate tests for the male retirement group showed significance (Pillai's Trace p = 0.079, Wilks' Lambda p = 0.079), reflecting a potential impact. Univariate test results supported that the male retirement group had a substantial effect on poverty depth (DPOV, p < 0.001) and severity (SPOV, p = 0.003). Moreover, the results showed a significant influence on secondary education rates for girls (SR-W, p = 0.035) or explained that reductions in this group could hinder children's access to education. However, the effect on preschool education rates for girls was insignificant (above α, p = 0.443) or had limited influence within the context related to current research.

For the female retirement group, neither the multivariate nor the univariate tests demonstrated significant effects on girls' poverty depth, severity, and secondary education rates. The effect on preschool education rates for girls showed a significant impact (p = 0.080) but remained inconclusive.

For the working-age population variables (M-65 and W-65), neither multivariate nor univariate tests indicated significant effects on poverty or education outcomes. The results for M-65 suggested a marginal effect on poverty

depth (DPOV, F = 5.116, p = 0.064), but this did not reach statistical significance. Similarly, the results for W-65 showed no significant influence on any of the dependent variables, with all p-values exceeding the threshold for significance.

The hypothesis was partially supported. Differences in male retirement ages significantly influenced poverty levels and secondary education access, showing that male economic contribution is important in alleviating child poverty and supporting education. However, the female retirement and working-age populations did not exhibit a consistent or significant impact.

The fourth hypothesis, that income and expenditures influence poverty level, has results presented in Table 6.

TABLE 6. Relationship between income, expenditures, and poverty

Model 4	Multivariate Tests				Univariate Tests					
	Test	value	F	p	Dependent Variable	Sum of Squares	df	Mean Square	F	p
HHNINC	Pillai's Trace	0.946	35.042	0.003	DPOV	0.37156	1	0.37156	63.442	<.001
	Wilks' Lambda	0.0540	35.042	0.003	SPOV	0.03647	1	0.03647	80.365	<.001
MI	Pillai's Trace	0.693	4.516	0.094	DPOV	0.01941	1	0.01941	3.314	0.128
	Wilks' Lambda	0.3070	4.516	0.094	SPOV	0.00500	1	0.00500	11.025	0.021
PCINC	Pillai's Trace	0.594	2.927	0.165	DPOV	0.02929	1	0.02929	5.001	0.076
	Wilks' Lambda	0.4059	2.927	0.165	SPOV	5.47e-5	1	5.47e-5	0.121	0.743
PEXP	Pillai's Trace	0.448	1.626	0.304	DPOV	0.02325	1	0.02325	3.970	0.103
	Wilks' Lambda	0.5515	1.626	0.304	SPOV	0.00110	1	0.00110	2.416	0.181
RII	Pillai's Trace	0.228	0.590	0.596	DPOV	0.00721	1	0.00721	1.230	0.318
	Wilks' Lambda	0.7722	0.590	0.596	SPOV	5.56e-4	1	5.56e-4	1.224	0.319
Residuals					DPOV	0.02928	5	0.00586		
					SPOV	0.00227	5	4.54e-4		

Note: compiled by author

The multivariate tests for household nominal income (HHNINC) revealed highly significant results (Pillai's Trace p = 0.003, Wilks' Lambda p = 0.003), indicating a strong influence on poverty levels. The univariate analysis confirmed this impact, showing that HHNINC had a substantial and statistically significant effect on both poverty depth (DPOV, F = 63.442, p < 0.001) and severity (SPOV, F = 80.365, p < 0.001).

The results confirm that household income is among the primary means of mitigating poverty and higher nominal income levels are directly associated with poverty depth and severity reductions.

Median income (MI) demonstrated a more nuanced role. While the multivariate tests approached significance (Pillai's Trace p = 0.094, Wilks' Lambda p = 0.094), the univariate analysis indicated mixed effects. For DPOV, the influence of median income was not statistically significant (F = 3.314, p = 0.128), but SPOV reached significance (F = 11.025, p = 0.021). This suggests that median income primarily impacts poverty severity, reflecting its role in addressing extreme poverty.

The results were less conclusive for per

capita income (PCINC) and population expenditures (PEXP). The multivariate tests did not yield significant results (PCINC Pillai's Trace p = 0.165, Wilks' Lambda p = 0.165; PEXP Pillai's Trace p = 0.304, Wilks' Lambda p = 0.304). Similarly, the univariate tests showed marginal effects for DPOV (PCINC F = 5.001, p = 0.076; PEXP F = 3.970, p = 0.103) and nonsignificant effects for SPOV (PCINC F = 0.121, p = 0.743; PEXP F = 2.416, p = 0.181). These findings indicate that while these variables may contribute to poverty outcomes, their impact was not robust within this model.

Finally, the real income index (RII) did not significantly influence poverty levels. Both multivariate (Pillai's Trace p = 0.596, Wilks' Lambda p = 0.596) and univariate tests showed nonsignificant effects on DPOV (F = 1.230, p = 0.318) and SPOV (F = 1.224, p = 0.319). This suggests that the accurate income index, while reflective of broader economic conditions, may not directly translate to measurable changes in the depth or severity of household poverty.

In conclusion, the hypothesis was partially supported. Household nominal income (HHNINC) emerged as the most significant factor, demonstrating a strong and consistent influence on poverty depth and severity. Median income (MI) was secondary, primarily affecting poverty severity. However, per capita income, expenditures, and the real income index showed limited or nonsignificant effects. These findings emphasize the importance of direct household income in addressing poverty and suggest that policies targeting income growth at the household level may have the most significant impact on reducing poverty, particularly for women and girls who are disproportionately affected by economic hardships.

The sixth hypothesis concerns household nominal income and consumption expenditures, which influence preschool and secondary education for girls and the number of boys and girls in preschool. The results are presented in Table 7.

TABLE 7. Impact of income and expenditures on educational access and preschool enrollment

Model 5	Multivariate Tests				Univariate Tests					
	Test	value	F	p	Dependent Variable	Sum of Squares	df	Mean Square	F	p
HHNINC	Pillai's Trace	0.982	67.01	<.001	PR-W	10.058	1	10.058	0.369	0.560
		0.0183	67.01	<.001	SR-W	5.877	1	5.877	6.756	0.032
	Wilks' Lambda	0.538	1.46	0.340	PG0-7	1.85e+10	1	1.85e+10	25.981	<.001
		0.4619	1.46	0.340	PB0-7	2.55e+10	1	2.55e+10	39.029	<.001
HHCEXP	Pillai's Trace	0.982	67.01	<.001	PR-W	73.142	1	73.142	2.687	0.140
		0.0183	67.01	<.001	SR-W	0.186	1	0.186	0.214	0.656
	Wilks' Lambda	0.538	1.46	0.340	PG0-7	6.49e0+8	1	6.49e0+8	0.914	0.367
					PB0-7	1.17e0+9	1	1.17e0+9	1.796	0.217
Residuals					PR-W	217.770	8	27.221		
					SR-W	6.960	8	0.870		
					PG0-7	5.68e0+9	8	7.10e0+8		
					PB0-7	5.23e0+9	8	6.53e0+8		

Note: compiled by author

The multivariate tests for household nominal income showed a strong significant influence. Univariate tests showed that higher nominal income positively impacts secondary education rates for girls, and household nominal income demonstrated a significant impact (F = 6.756, p = 0.032). However, for preschool education rates, the effect was insignificant (F = 0.369, p = 0.560), with no direct impact on access to preschool education. Regarding the number of children in preschool, household nominal income significantly impacted both boys (PB0-7, F = 39.029, p < 0.001) and girls (PG0-7, F = 25.981, p < 0.001and showed significance in supporting early education. In contrast, household

consumption expenditures did not show significance across the variables. Although multivariate test results were significant (Pillai's Trace $p < 0.001$, Wilks' Lambda $p = 0.340$), univariate tests demonstrated insignificant effects.

The hypothesis was partially supported. Household nominal income emerged as a significant factor influencing secondary and preschool (number of boys and girls) education. This supported the assumption that higher income levels directly enhance access to fundamental educational opportunities. However, assumptions about household consumption expenditures were not supported. It can be assumed that household income level predefines children's access to education, which is especially critical in countries where local customs put women in lower roles. Therefore, when there is a case for deciding in favor of boys or girls, education is usually provided for boys. With further effect, influenced by local habits and societal perceptions, teenage girls consider a successful marriage as the appropriate option for economic safety.

5. CONCLUSIONS

Exploring the relationship between socio-economic and demographic factors and their impact on poverty levels and access to education was a goal of the research. However, the current study differs with a specific focus on gender disparities affecting girls and women.

The objectives included exploring the contribution of household income, expenditures, and demographic structures to poverty depth and severity and access to preschool and secondary education.

The findings of the study indicate that the objective was partially achieved. While significant relationships were identified between household income and access to education for girls and between demographic factors and poverty outcomes, some variables showed limited or nonsignificant effects. The analysis revealed several key insights highlighting expected and unique aspects of how socio-economic factors influence poverty and access to education for girls and women. Therefore, results support that household economics is relied on in terms of economic stability and ensuring access to education. Household income significantly impacts girls' enrollment in preschool and secondary education, which was largely anticipated. Increased income allows families to allocate more resources toward their children's education. However, the fact that this effect is particularly pronounced for girls underscores that female populations continue to face barriers that are closely tied to economic support within families.

A unique finding was that boys aged 0–14 years have a more significant impact on household poverty levels compared to girls of the same age. Therefore, one might assume that societal norms affect the way people associate boys with higher expenses or broader differences in the costs of raising them. This highlights the importance of considering gender differences when designing poverty alleviation policies.

Demographic factors also have taken a major part. However, credit must be given to the proportion of the working-age population, and differences in retirement ages between men and women must also emerge as important. The findings indicate that a decrease in the working-age population negatively affects children's access to education, particularly for girls. Leading to increased household income, it directly provides the opportunity to improve girls' education access, showing that current measures to support family incomes, such as subsidies and social benefits, can play a decisive role in reducing gender gaps in education.

However, risks related to poverty and economic instability persist, disproportionately affecting girls in certain age groups. These findings emphasize the need for comprehensive policies that address the following areas:

1. increasing household incomes through employment support, particularly for women;

2. ensuring access to affordable preschool education to alleviate financial burdens on families;

3. integrating gender considerations into social programs to reduce poverty risks for girls;

4. implementing balanced demographic policies to maintain a sustainable ratio of working-age to dependent populations;

5. by taking these steps, it is possible to create more equitable opportunities for both girls and boys while reducing poverty in the long term.

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