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Factors Explaining the Phenomenon of Young Neets in the Republic of Congo

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Abstract

This article analyzes the explanatory factors of NEET (Not in Employment, Education, or Training) status among young people aged 15 to 29 in the Republic of Congo, using recent data from the Active Life Transition Survey (ETVA). We used the NEET status model. This model was used by François Joseph Cabral in 2018 in Senegal. It is a binary logit model. The process consists of explaining the dichotomous variable Y from a set of *P* variables. The results highlight a high proportion of NEET youth (37.07%), revealing the difficulties of socio-professional integration in a context marked by structural unemployment and a weak training system. The study shows that the NEET phenomenon is largely influenced by socioeconomic and demographic variables, particularly age, education level, employment status, place of residence, household living conditions, duration of unemployment, and lack of social networks. Unemployed youth, those from disadvantaged families and living in urban areas, as well as those with less education, are more likely to fall into this category. The article concludes with the need to implement integrated public policies combining education, vocational training, decent job creation, and social support, with particular attention to unemployed youth and urban populations. It advocates for a comprehensive and inclusive approach to transform the demographic potential of Congolese youth into a lever for sustainable development.

Keywords

NEET, Explanatory Factors, Youth, Republic of Congo

1. Introduction

On September 25, 2015, 193 world leaders committed to 17 global goals to be achieved over the next seven years (2015-2030). Of the 17 goals, the eighth (access

to decent jobs) had twelve targets, the sixth of which aimed to significantly reduce the proportion of young people aged 15 - 24 who are not in education, employment, or training (known as "NEETs") by 2020. However, this percentage has not fallen significantly, as globally it has gone from 21.8% in 2015 to 20.4% in 2024 (https://www.ilo.org/). In sub-Saharan Africa, the percentage of young NEETs was 23.2% in 2024, with significant variations according to gender, place of residence, and level of education (https://www.ilo.org/). Despite high rates of NEET youth, most countries in the region still lag behind in terms of indicators, with a lack of or insufficient data on this segment of the population.

The Republic of Congo is no exception to this rule. It is one of the southern countries that has not yet included the NEET rate indicator in its list of national statistics. This demonstrates the lack of knowledge or, at the very least, the lack of attention paid to this significant segment of young people by decision-makers and policymakers, particularly in the education sector and in the area of youth integration in Congo. In 2022, a survey on the transition to working life (ETVA) was conducted, revealing that 37% of young people were neither in education, employment, nor training. However, the report did not highlight the profile and explanatory factors of this phenomenon, showing that this issue is one of the topics that is rarely addressed in the Republic of Congo, even though it reflects the situation of many young people who are left behind. This could be due to a lack of understanding of the scale and characteristics of this phenomenon. This study therefore aims not only to determine the profile of NEETs, but also to identify the factors explaining this phenomenon in Congo.

2. Conceptual Framework

Young people who are not in education, employment, or training constitute a category of young people referred to by the term "NEET," which stands for "Not in Employment, Education, or Training" (DARES, 2020).

The three criteria that characterize NEET youth are as follows:

- **Young people who are not in education**: individuals who are not pursuing academic studies during the survey period. This group may include young people who have previously attended school.
- **Young people who are not in training**: individuals who are not pursuing any vocational training at the time of the survey. These individuals may have received training in the past.
- **Young people not in employment**: are young people who do not have a job at the time of the survey. This group therefore includes young people who are not studying (having left school), who are not in vocational training, and who do not have a job (**Figure 1**).

The concept of "young person" depends on the socioeconomic criteria adopted by each country. The OECD has adopted the NEET rate, defining it as the proportion of young people aged 15 to 29 who are not in education, employment, or vocational training. The International Labor Organization (ILO) defines NEETs

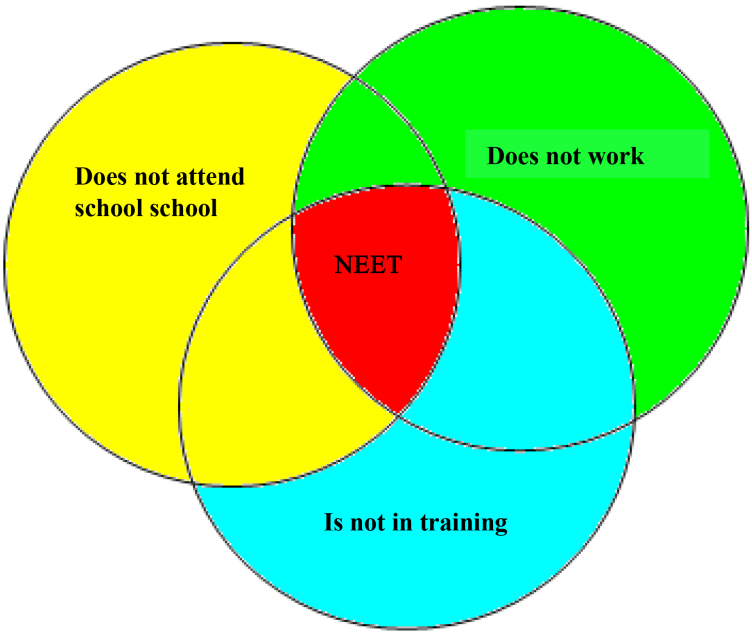

Figure 1. Illustration of the definition of NEET. Source: Author.

as young people aged 15 to 24, in line with indicator 8.6.1 adopted under SDG 8, which targets reducing the proportion of young people aged 15 to 24 who are not in education, employment, or training. In some countries, this age group can extend up to 34 years old.

The concept of NEET first appeared in the 1990s in the United Kingdom to describe young people excluded from both the labor market and the education system (Yates & Payne, 2006). A little later, the concept of "no access to training" was added. The unstable future of this category of young people, mainly due to their vulnerability and high risk of economic and social exclusion, has prompted interest in a thorough rethinking of public policies dedicated to young people and the integration of new integration indicators that better reflect the reality of this category of the population. As a result, the International Labor Organization (ILO) has adopted it as a universal indicator to identify other forms of marginalization beyond those measured by the unemployment rate (https://www.ilo.org/). Unlike unemployment, which implies actively seeking work, NEET also includes young people who are discouraged or prevented from participating in the labor market.

3. Literature Review

3.1. Theoretical Review

By analyzing the NEET phenomenon through the lens of structural functionalism (Bales & Parsons, 1955), we observe a complex interaction between social structures and individual roles within society. According to this perspective, society is seen as a system composed of several interconnected elements, each fulfilling a specific function to maintain social order and stability. In this context, NEETs can be considered as individuals who have temporarily or permanently disengaged

from traditional education and employment pathways, thereby disrupting the expected functioning of the social system (Bales & Parsons, 1955). Structural functionalism suggests that institutions such as education and the labor market play an essential role in maintaining social cohesion and balance. Education serves as a mechanism for transmitting knowledge, skills, and values, while the labor market offers individuals the opportunity to contribute to society and provide for their economic needs. When individuals, particularly young people, fail to find their place within these institutions, the proper functioning of society can be affected (Schneewind, 2001). From the perspective of social exclusion theory, examining the NEET category provides valuable insights into the complex mechanisms that contribute to their marginalization (Silver, 1994; Byrne, 2005). Social exclusion theory emphasizes the cumulative impact of factors such as material deprivation, insufficient access to social rights, limited participation in social activities, and lack of normative integration (Jehoel-Gijsbers & Vrooman, 2007), which collectively exclude specific individuals or groups from full participation in society. NEETs can be seen as a manifestation of social exclusion, as they face various barriers, including limited educational opportunities, labor market inequalities, and socioeconomic disadvantages. This theory highlights the crucial importance of tackling structural inequalities and promoting social inclusion, both of which are essential measures for addressing the challenges faced by young NEETs and fostering a more equitable society (Raffo & Reeves, 2000). Applying human capital theory to the NEET situation highlights the importance of human capital in young people's engagement in society. It posits that the level of human capital, encompassing knowledge and skills, plays a key role in the likelihood of NEETs integrating into productive activities and their ability to contribute to the economy (Becker, 1993). Thus, the theory emphasizes the importance of investing in the development of NEETs' human capital through alternative educational programs and skills development initiatives in order to improve their employment prospects and promote their meaningful economic participation.

3.2. Empirical Review

Since its emergence in the 1980s and its adoption by the European Commission's Employment Committee (EMCO) in 2010, the concept of NEET has gained popularity, reflecting the multidimensional vulnerabilities of young people (Mascherini, 2019). However, insufficient attention has been paid to a thorough understanding of the influence of unconventional determinants, such as household structure, family support, satisfaction/self-esteem, institutions, and political participation, on the outcomes of NEET individuals in North Africa.

Zuccotti and O'Reilly (2019) examined the impact of household structure on young people's educational and occupational outcomes, using data from the UK Understanding Society survey. The results showed that while young people whose parents are unemployed are generally more likely to become NEET, this probability varies across ethnic groups and genders, with the impact being smaller among second-generation Indians, Africans, and Bangladeshis than among white British

people.

Furthermore, recent research has highlighted the crucial role of subjective determinants in the lives of NEETs. A study by Felaco and Parola (2022) examined the self-reported subjective well-being and future orientation of Italian NEETs. Empirical results showed that the NEET group had lower subjective well-being and encountered more difficulties in planning for the future than the non-NEET group. Being NEET is still associated with habits that can be detrimental to health and, consequently, to subjective well-being. Chandler and Santos Lozada (2021) studied the associations between NEET status and self-reported poor or bad health among adolescents and young adults in the United States. Using a database of 53,690 participants extracted from the 2016-2018 National Survey on Drug Use and Health (NSDUH), estimates based on a Logit model showed that NEETs reported poorer health than non-NEETs who were in school and/or employed (11.30% vs. 5.62%). In terms of individual characteristics, NEETs were older, had a higher proportion of non-Hispanic Blacks, smoked more but drank less alcohol than non-NEETs. Reintegrating NEETs through education and employment effectively contributes to improving their health.

In Morocco, surveys (International Labor Organization, 2017; World Bank, 2020) show that the proportion of NEETs ranges from 22% to 30% of young people. This phenomenon is much more influenced by high graduate unemployment, training-job mismatch, labor market rigidities (preference for public sector employment), and gender inequalities (the rate for young women is almost double that for men). According to a study by the African Development Bank (2018), around 35% of young Nigerians are NEET. This study revealed the importance of family factors (household poverty, domestic responsibilities for girls) and widespread informality (more than 70% of jobs are informal and often precarious, trapping some young people in inactivity). In Ghana, a study by Baah-Boateng (2021) showed that NEETs are mainly concentrated in rural areas and among young people with low levels of education.

Surveys by the International Labor Organization & United Nations Economic Commission for Africa (2019) highlighted that in Cameroon, limited access to technical and vocational training increases the risk of NEET status. The same study revealed that in the DRC, political instability and widespread poverty lead to high NEET rates, especially among young people displaced by conflict. The report on the status of NEETs in Rwanda in 2022 stated that gender, marital status, and level of education are key factors in this phenomenon. The report also confirmed that unpaid activities such as domestic work, family farming, and involvement in family agriculture are more likely to be associated with NEET status.

4. Methodological Approach

4.1. Sampling

The data used in this article covers all twelve (12) departments in the country. It

comes from the second Transition to Working Life Survey (ETVA) conducted in 2022 by the Directorate General for Qualifying Training and Employment (DGFQE) with technical assistance from the National Institute of Statistics (INS) and funding from the French Development Agency (AFD). The study population consisted of individuals aged 15 to 35. The survey sample was drawn from the enumeration areas database of the fifth General Population and Housing Census (RGPH-5) conducted in 2020. This sampling frame made it possible to divide the national territory into 6554 enumeration areas (EAs) for 1,335,371 households, of which 819,192 are in urban areas and 516,179 in rural areas.

The ETVA is conducted according to a two-stage stratified random sampling plan, with proportional allocation at the first stage. At the first stage, 272 ZDs were drawn, including 155 in urban areas and 117 in rural areas, using the unequal probability sampling technique. At the second stage, a constant number of households were drawn from each ZD, according to the area of residence, in order to ensure self-weighting of the sample. In the urban strata, a constant number of twelve (12) households were systematically selected at the level of each ZD. In rural areas, however, ten (10) households were selected in each targeted ZD. A total of 3030 households were selected for ETVA-CONGO, including 1860 in urban areas and 1170 in rural areas. Using the household questionnaire, all members of the selected households were identified; only eligible individuals (aged 15 to 35), whether regular residents or visitors, living in these households were surveyed. In total, a representative sample of 6536 young people aged between 15 and 35 was selected.

However, the target population for our study is all young people aged 15 to 29. Within this age group, the ETVA targeted a representative sample of 5423 young people. After extrapolation, we obtained a total of 1,575,556 young people aged between 15 and 29, of whom 50.46% are male and 40.74% live in rural areas. The majority of these young people are single (86.03%). Cohabiting couples account for 11.69% and married couples for only 1.49%. Most single young people are male (53.69%). However, women are in the majority in the other categories of groups.

4.2. Methodology Used

Since our dependent variable has two modalities, we will use the binary logit model. This model was used by François Joseph Cabral in 2018 in Senegal (Cabral, 2018). The choice of this model is justified by the fact that, on the one hand, it has been commonly used in similar studies and, on the other hand, its coefficients can be interpreted in terms of odds ratios, making it easier to understand the effect of the variables.

The process consists of explaining the dichotomous variable Y using a set of p variables ($X_1, X_2, \cdots, X_p$). The dichotomous variable Y represents NEET status and takes the value 1 if the young person is NEET and 0 if not. For an individual i, the probability of being NEET is given by the following formula:

$$P_i = E\left(Y = 1/X_i\right) = \frac{e^{\beta X_i}}{1+e^{\beta X_i}} = \frac{1}{1+e^{-\beta X_i}}$$

In this formula,

P_i denotes the probability of being NEET;

X_i is the matrix of variables explaining NEET status;

β is a parameter.

The probability of remaining in NEET status or leaving it is given by:

$$1-P_i = \frac{1}{1+e^{\beta X_i}}$$

The NEET status then follows a Bernoulli distribution, which allows us to write:

$$e^{\beta X_i} = \frac{P_i}{1-P_i}$$

The ratio $\frac{P_i}{1-P_i}$ is the risk ratio of being NEET. It is the ratio of the possibility of a young person being NEET to the probability of not being NEET. So, for example, if $P_i = 0.45$, then this means that the risk of being NEET is 9 to 11. Taking the natural logarithm of this ratio gives the following very interesting result:

$$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = \beta X_i$$

L denotes the logit, hence the name logit models, which can be specified as follows:

$$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = \beta X_i + \varepsilon_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \cdots + \beta_p X_{ip} + \varepsilon_i$$

where p is the number of explanatory variables classified into three categories:

- Characteristics of the young person;
- Characteristics of their parents;
- Characteristics of the environment.

5. Results and Analysis

5.1. Measuring the NEET Ratio

The ILO definition of NEETs encompasses all young people who are not in education, employment, or training. To this end, the ILO uses the following approach to determine the NEET rate (T):

$$T = \frac{\text{Young people not in education, employment, or training}}{\text{Working-age youth population}}$$

In this article, we will consider the age range of 15 to 29 years old.

Based on a rich set of microeconomic data obtained during the ETVA-Congo in 2022, we learn that there were 1,575,556 individuals aged 15 to 29. Of these, 584,003 were not in education, employment, or training (**Table 1**).

Table 1. Determining the number of NEETs in Congo.

Schooled	In training	In employment		Total
		Yes	No	
Yes	Yes	23,740	287,350	311,090
	No	49,927	450,820	500,747
	Total enrolled	73,667	738,170	811,837
Non	Yes	39,102	86,648	125,750
	No	53,966	584,003	637,969
	Total not in school	93,068	670,651	763,719
Total	Yes	62,842	373,998	436,840
	No	103,893	1,034,823	1,138,716
	Grand total	166,735	1,408,821	1,575,556

Source: Author's calculations based on ETVA-2022 data.

The results in the table above were used to determine the NEET ratio. These results show that 37.07% of young people aged 15 - 29 in Congo are NEET. This rate is higher among those aged 20 and over. Analysis by age group reveals that the NEET rate increases with age, regardless of the young person's gender (Table 2).

Table 2. NEET rates by gender according to age group.

	Male	Female	Overall
[15 - 20[	18.88%	23.54%	21.14%
[20 - 25[	37.42%	47.33%	42.24%
[25 - 30[	56.87%	62.49%	59.85%
Overall	33.31%	40.90%	37.07%

Source: Author's calculations based on ETVA-2022 data.

Analysis by gender also shows us that young women are more affected by the NEET phenomenon than young men (40.90% of young women compared to 33.31% of young men).

5.2. Descriptive Analysis

After measuring the rate of young people in NEET situations, we will describe the situation of young NEETs in Congo in 2022. To this end, three categories of analysis will be carried out, focusing on the characteristics of young people, the characteristics of their parents, and the characteristics of their environments.

Table 3 below shows the rate of young people by age group according to their socio-demographic characteristics.

Table 3. NEET rates according to the socio-demographic characteristics of young people.

	Age group			Overall
	[15 - 20[	[20 - 25[	[25 - 30[	
Gender				
Female	23.54%	47.33%	62.49%	40.90%
Male	18.88%	37.42%	56.87%	33.31%
Business situation				
Unemployed (ILO definition)	89.77%	81.28%	92.39%	87.38%
Inactive	21.88%	48.09%	77.12%	40.74%
Marital status				
Single	19.57%	38.69%	58.51%	33.03%
Divorced/separated	34.25%	76.59%	56.74%	62.46%
Married	70.17%	48.34%	67.07%	61.28%
Common-law relationship	53.62%	65.36%	62.41%	62.00%
Widowed			47.50%	47.50%
Has a child				
No	17.99%	34.14%	54.67%	27.81%
Yes	57.01%	60.00%	63.34%	61.26%
Has a disability				
No	21.34%	41.86%	59.57%	36.98%
Yes	16.99%	51.25%	65.53%	39.01%
Level of education				
None	84.22%	79.05%	77.15%	80.32%
Primary	18.94%	45.24%	50.52%	34.61%
Secondary	8.61%	32.95%	58.87%	25.56%
Higher	16.67%	23.28%	51.64%	33.63%
Already worked?				
No	22.63%	49.75%	78.91%	42.55%
Yes	12.05%	17.74%	20.21%	16.97%
Ever turned down a job?				
No	20.94%	41.64%	59.25%	36.56%
Yes	38.14%	66.77%	84.82%	64.17%
Duration of unemployment				
Less than one year	19.08%	39.75%	55.15%	33.65%
One year to less than two years	83.44%	69.57%	89.51%	81.30%
Two years or more	72.03%	70.45%	89.27%	78.58%

Continued

Networking				
No	83.41%	93.35%	94.53%	91.69%
Yes	20.29%	40.79%	57.99%	35.57%
Overall	**21.14%**	**42.24%**	**59.85%**	**37.07%**

Source: Author's calculations based on ETVA-2022 data.

In 2022, more than one in three young people (37.07%) aged 15 - 29 in Congo are neither in education, employment, nor training (NEET). This rate has more than doubled compared to the 2015 results, when less than one in five young people (15.93%) in this age group were in this situation. The increase in this rate between 2015 and 2022 is the result of three main factors: COVID-19, which has directly affected employment and education; the ineffectiveness of educational reforms; and the mismatch between training and employment. An increase in the NEET rate represents a huge loss for the Congolese economy and an obstacle to achieving the demographic dividend. Given the potential consequences of the NEET phenomenon among young people for national development, it is therefore essential that Congo design and implement strategies that effectively address the challenges faced by young people excluded from the labor market and skills development pathways (Afeti & Adubra, 2012).

Regardless of age, it has been noted that young girls are more exposed to the NEET phenomenon than young boys. This result could be explained by the general observation that young girls drop out of the education system more quickly and in greater numbers. Thus, young girls seem to be more likely to be in a NEET situation than their male counterparts.

Similarly, we note that the highest NEET rate is observed among the unemployed, at 87.38%. This rate is more than double that recorded among inactive NEETs, which is around 40.74%.

The results of our analyses also show that having a child increases the chances of being a NEET. Indeed, our analyses show that the rate of young NEETs who have at least one child (61.26%) is twice as high as that of young NEETs who have no children (27.81%). With regard to the health status of young people, it is noted that young people living with at least one disability are more likely to become NEET than those without disabilities.

The results in the table above also reveal that the vast majority of young NEETs in Congo have a very low level of education, which keeps them in a precarious situation. More than four out of five young people (80.32%) aged 15 to 29 have no education, and less than one in three has at least a secondary education.

Furthermore, it is important to note that the level of education of the child's parents has a huge influence on the child's decision to become a NEET or not. Indeed, it has been observed that when a young person's level of education is lower than that of their parents (mother or father), the probability of that young person

becoming a NEET is very high. More than half (51.76%) of young people with a lower level of education than their fathers and 62.04% of young people with a lower level of education than their mothers were NEET. This rate drops by almost half (26.65%) when the child's level of education is higher than that of their father, and by more than half (27.19%) when it is higher than that of their mother. It is therefore essential to encourage young people to achieve higher levels of education than their parents.

Our data also reveals that never having worked, having refused a job, or having been unemployed for a long time increases the chances of becoming a NEET.

Several studies have shown that the labor market in most developing countries is characterized by "internal functioning, i.e., companies make extensive use of internal and informal channels" for recruitment (Garner-Moyer, 2004). According to the pioneering work of Mark Granovetter (1974), networks facilitate job searches and increase the chances of success by providing more detailed information than that obtained through formal channels. More recent American studies conducted in higher education institutions have shown, based on female samples, that graduates who are part of networks, particularly mixed networks, receive more job offers at the end of their studies (Belliveau, 2005). Networks therefore appear to be a particularly effective means of accessing employment. The data from our study confirmed this, noting that the percentage of young NEETs in Congo is twice as high among those who do not belong to a network (91.69%) compared to those who do.

Our data analysis also indicates that there is a link between the status of young NEETs and the employment situation of their parents. It appears that when neither parent is working, the chances of a young person becoming a NEET increase more rapidly than when at least one parent is working (**Table 4**).

Table 4. NEET rates according to the characteristics of the young person's parents.

	Age group			Overall
	[15 - 20[	[20 - 25[	[25 - 30[	
Father's level of education				
Superior to the child	35.86%	60.20%	69.60%	51.76%
Same level as the child	17.77%	43.04%	61.09%	35.86%
Inferior to the child	11.71%	28.51%	51.55%	26.65%
Don't know	35.21%	52.61%	52.06%	44.54%
Mother's educational attainment				
Superior to the child	48.43%	69.41%	73.15%	62.04%
Same level as the child	23.74%	50.64%	64.26%	40.41%
Inferior to the child	9.61%	30.05%	53.08%	27.19%
Don't know	40.28%	50.63%	58.89%	46.55%

Continued

Parents' employment status				
Both work	19.50%	41.91%	58.49%	35.93%
Mom only works	27.83%	41.47%	80.72%	42.58%
Dad only works	37.14%	45.37%	64.05%	45.49%
No one works	24.71%	44.08%	82.46%	48.02%
Household standard of living				
High	11.96%	26.41%	47.57%	24.79%
Medium	17.24%	39.83%	62.29%	34.78%
Low	24.25%	45.14%	60.07%	39.61%
Overall	**21.14%**	**42.24%**	**59.85%**	**37.07%**

Source: Author's calculations based on ETVA-2022 data.

The status of young NEETs is also a phenomenon correlated with poverty. Our article highlights the cross-relationship between the standard of living of young people's households and their NEET status. Our analyses show that the lower the standard of living of young people's households, the more likely they are to become NEETs.

In terms of place of residence, this phenomenon is much more prevalent in urban areas (41.33%) than in rural areas (30.86%). Our results show that young people in urban areas are more likely to be NEET than those in rural areas. Based on these results, we can say that young people living in urban areas are predominantly NEETs despite opportunities for employment, training, and entrepreneurship. In rural areas, on the other hand, young people who are NEETs may very quickly turn to agriculture. This could significantly reduce the rate of NEETs in rural areas relative to urban areas. Thus, in Congo, place of residence appears to be a key factor in the structure of young NEETs.

Analysis by age group of the NEET rate among young people according to place of residence revealed that the gap between urban and rural areas increases with age. In fact, this gap increased from 3 points (22.82% in urban areas versus 19.02% in rural areas) among young people aged 15 to 19 to 21 points (68.01% versus 46.69%) among young people aged 25 to 29.

Figure 2 shows the NEET rate by department. The departments with the lowest NEET rates are Kouilou (16.00%) and Bouénza (19.87%). On the other hand, high NEET rates are observed in certain departments such as Lékoumou (51.06%), Brazzaville (45.85%), Pointe Noire (43.67%), Likouala (41.03%), Sangha (38.07%), and Cuvette (37.24%) (Figure 3).

5.3. Determining Factors of NEET in Congo

The descriptive analysis approach, although informative, is limited by the fact that it considers explanatory variables in isolation. To overcome this limitation

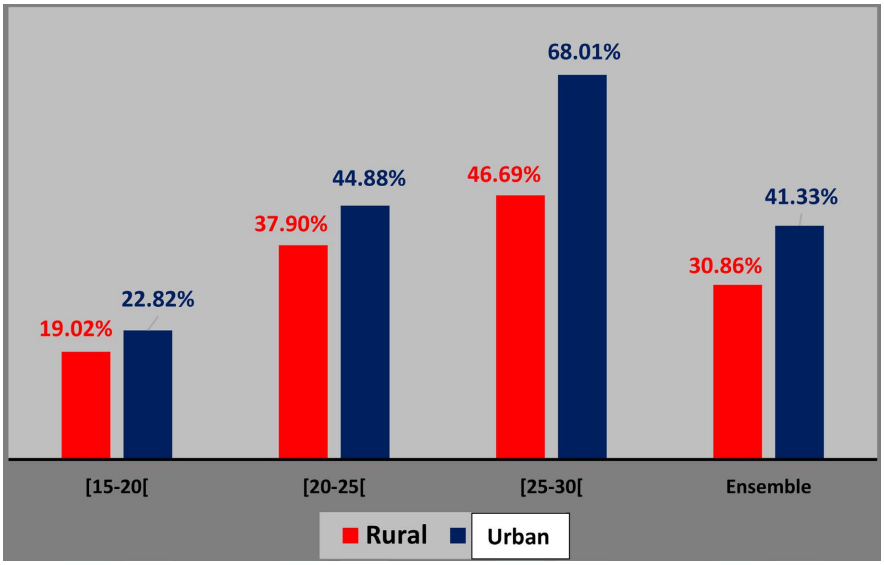

Figure 2. NEET rates by age group according to place of residence. Source: Author's calculations based on ETVA-2022 data.

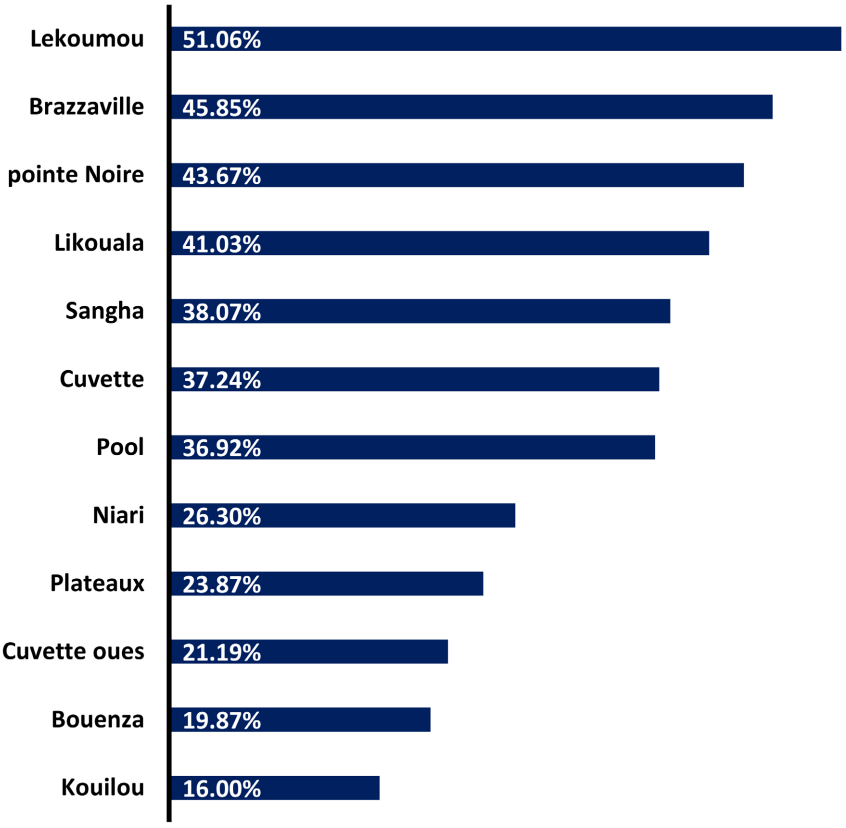

Figure 3. NEET rate by department. Source: Author's calculations based on ETVA-2022 data.

and strengthen our understanding of the NEET phenomenon among young people, we undertook a more in-depth multivariate analysis, simultaneously integrating all explanatory variables, in accordance with our methodology.

We will use data from the 2022 ETVA to build our model. We will therefore use an endogenous variable associated with variations in several variables called exogenous (explanatory) variables.

It should be noted that the aim of this article is to identify the factors that explain the NEET phenomenon among young people aged 15 - 29. The endogenous variable in our model has two values: 1 to indicate that the young person is NEET and 0 to indicate that the young person is not NEET. To this end, we can therefore say from the steps described above that the dependent variable in our study is qualitative and dichotomous in nature. This is why we have opted for a binary logistic regression model (binary logit model).

As for exogenous variables, we classified them into three groups: variables related to the socio-demographic characteristics of the young person (gender, age, employment status, marital status, having a child, having a disability, level of education), variables related to the characteristics of the young person's parents (father's level of education, mother's level of education, parents' employment status, household standard of living) and variables related to environmental characteristics (area of residence, department).

When we ran the model, the results showed that the variables of gender, disability, father's level of education, parents' employment, department, and previous employment did not influence the NEET phenomenon in Congo. In other words, the model's results show that men and women have the same chances of being NEET.

Although the descriptive analysis showed that the NEET rate for women (41%) is higher than that for men (33%), the absence of an effect of the gender variable on the phenomenon can be explained by the fact that other variables were included in the model, such as educational attainment and having a child, which may simultaneously influence the gender variable and the phenomenon.

Living with a disability does not increase the chances of being NEET. Furthermore, it appears that a young person's NEET status is not linked to their department of residence or their father's level of education. Similarly, the model shows that professional experience (whether or not they have worked) does not influence whether they belong to the NEET category (Table 5).

Table 5. Estimation of the first model.

NEET	**coef**	Std.Err	**Z**	$P>\|Z\|$
Sex	0.096633	0.0815573	1.18	0.236
Age Group	1.193758	0.0588579	20.28	0.0000
SituationActi	−1.632384	0.088603	−18.42	0.0000
Marital Status	0.6257521	0.106524	5.87	0.0000
Have a Child	1.399342	0.111861	12.51	0.0000
Disability	0.0156255	0.1881003	0.08	0.934

Continued

Instru_ne level	−1.175541	0.0585896	−20.06	0.0000
Instru_pere level	−0.0157282	0.0553566	−0.28	0.776
Instru_Mere Level	−0.1908873	0.0658723	−2.9	0.004
Parent Job	0.0225035	0.0537292	0.42	0.675
Household Expenses	0.3993111	0.0656806	6.08	0.0000
Middle Residence	0.2242256	0.097963	2.29	0.022
Department	−0.015561	0.0100198	−1.05	0.292
UNEMPLOYMENT_DURATION	1.194935	0.0929385	12.86	0.0000
ALREADY_WORKING	0.2550211	0.1780353	−1.43	0.152
REFUSAL	0.8863216	0.2652869	3.34	0.001
NETWORK	−3.325963	0.3360704	−9.9	0.0000
cons	1.893992	0.844173	2.24	0.025
LR chi^2 (17)				2995.17
Prob > chi^2				0.0000
Pseudo R carré				0.415
Number of observations				5423

Source: Author's calculations based on ETVA-2022 data.

By removing these variables that do not explain the phenomenon in the model, we obtain a second model in which all exogenous variables significantly explain the NEET phenomenon among young people (Table 6).

Table 6. Estimation of the second model.

NEET	**coef**	Std.Err	**Z**	*P*> |Z|
Age Group	1.198472	0.0583682	20.53	0.0000
Situation Acti	−1.704492	0.0728576	−23.39	0.0000
Marital Status	0.6130943	0.1056538	5.8	0.0000
Have a Child	1.357293	0.1072978	12.65	0.0000
Instru_ne level	−1.17474	0.0573682	−20.48	0.0000
Instru_Mere Level	−0.2003958	0.592978	−3.38	0.001
Household Expenses	0.3959767	0.0646574	6.12	0.0000
Middle Residence	0.2650843	0.0908568	2.92	0.004
DURATION_OF_UNEMPLOYMENT	1.194935	0.0925575	13.11	0.0000
REFUSAL	0.8524984	0.2634497	3.24	0.001
NETWORK	−3.319305	0.3368226	−9.85	0.0000
cons	1.74563	0.7937789	2.2	0.028

Continued

LR chi^2 (17)	2990.58
Prob > chi^2	0.0000
Pseudo R carré	0.4144
Number of observations	5423

Source: Author's calculations based on ETVA-2022 data.

Based on the information we have, we cannot say that the model we have is the right one until we determine the optimality quality of the data in that model.

A "good" model is one that, a priori, provides a reasonable description. However, how do we arrive at such a model?

There is no optimal modeling strategy, but there are principles.

In our case, we will first dichotomize the qualitative explanatory variables with more than two modalities before verifying the optimality of our model. Next, we will verify the model's ability to correctly classify NEETs and non-NEETs, then we will assess the model's ability to discriminate between positives and negatives by inspecting the sensitivity, specificity, and ROC curves. Finally, we will perform the Hosmer and Lemeshow test to verify the model's goodness of fit to the data.

1) Model classification table

The logistic model is used to model the probability of the 0/1 attributes of the dependent variable, denoted y, as a function of the selected covariates. Based on the estimated probabilities, a threshold is set to classify the individual in the category $y = 1$ if their probability is greater than the threshold, and in the category $y = 0$ otherwise.

This is a classification rule:

$$\begin{cases} \hat{y} = 1 \quad \text{si } \hat{P}_i = \hat{P}\left(y = 1/x_j\right) \geq \text{threshold} \\ \hat{y} = 0 \quad \text{otherwise} \end{cases}$$

It is interesting to determine the performance of the classification and how it depends on the chosen rule. To do this, we will use a table that will allow us to see whether the model accurately predicts positives and negatives.

The purpose of Table 7 is to determine whether there are any locally poorly adjusted observations that could have a significant effect on the estimation of the coefficients.

Table 7. Forecast quality of the model.

Classified	D	_D	Total
	1569	355	1924
	507	2992	3499
Total	2076	3347	5423

Continued

Classified + if predicted Pr(D) ≥ 0.5		
True D defined as NEET ! = 0		
Sensitivity	Pr(+/D)	75.58%
specifity	Pr(−/_D)	89.39%
Positive predictive value	Pr(D/+)	81.55%
Negative predictive value	Pr(_D/−)	85.51%
False + rate for true _D	Pr(+/_D)	10.61%
False − rate for true D	Pr(−/D)	24.42%
False − rate for classified +	Pr(_D/+)	18.45%
False + rate for classified −	Pr(D/−)	14.49%
Correctly classified		84.10%

Source: Author's calculations based on ETVA-2022 data.

Table 7 above shows that for NEETs (2076 individuals), the model indicates that 1569 individuals have an estimated probability of being NEET of less than 50%. In fact, in 75.58% of cases, the NEET phenomenon is correctly predicted at the 5% threshold.

For non-NEETs (3347 individuals), the model indicates that 2992 individuals have an estimated probability greater than 50%. In other words, in 89.39% of cases, the risk of not belonging to the NEET group is correctly predicted at the 5% threshold.

Overall, for a threshold of 5%, the model appears to correctly classify 4561 young people out of 5423. This gives a correct classification rate of 84.10%. The error rate is therefore low (15.90%).

2) Evaluation of the model's discriminatory power: sensitivity, specificity, and ROC curve

A good model must be well calibrated and allow for good discrimination. However, there may be cases where the model is well adjusted (achieving a good classification rate) but provides poor discrimination. Therefore, it is important to check whether our model discriminates well between positives and negatives, as they are already well classified. To verify this, we will consider the concepts of sensitivity and specificity.

We see that by setting the threshold at 0.35, we obtain a classification with a sensitivity and specificity of approximately 73%.

As for the indicator of the model's ability to discriminate, we have the ROC curve. The area under this curve allows us to evaluate the model's accuracy in discriminating between positives and negatives. Thus, Figure 4 shows that discrimination is excellent, as we obtain an ROC area (0.7351) between 0.7 and 0.9.

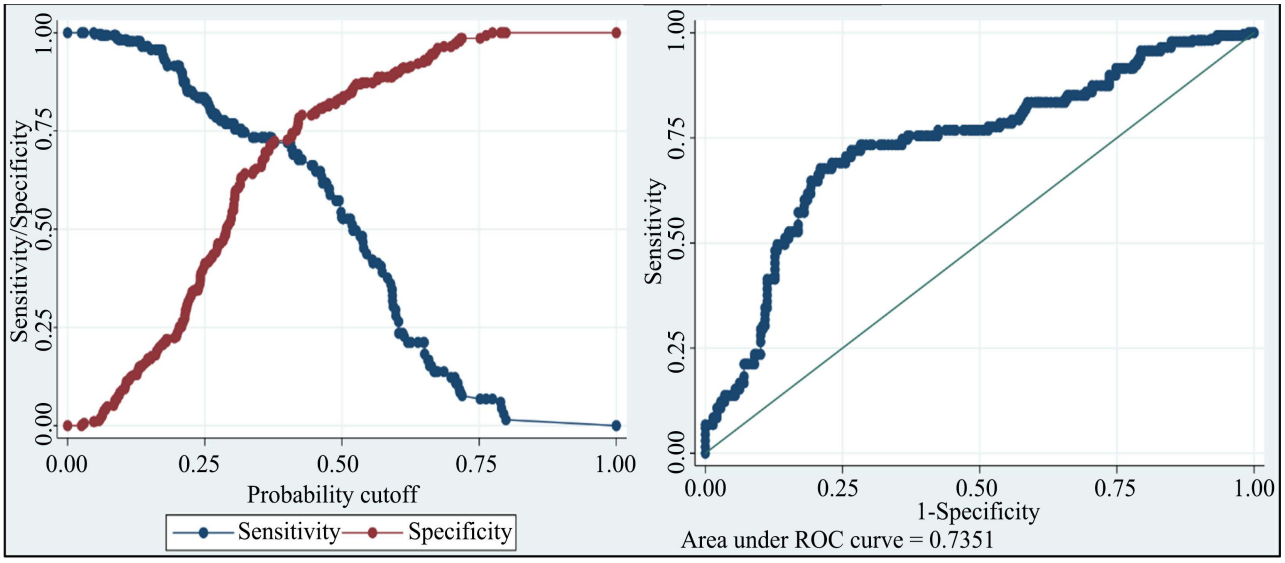

Figure 4. Sensitivity, specificity, and ROC curve. Source: Author's calculations based on ETVA-2022 data.

3) Hosmer and Lemeshow test

The approach we will take consists, on the one hand, of evaluating the overall adequacy of the model using this test and, on the other hand, once we are satisfied with the quality of the overall fit, determining whether there are any individual groups that are poorly fitted and may have a significant impact on the estimation of the coefficients.

We will evaluate the discriminating power of the model, which will allow us to determine whether we have chosen the "right" explanatory variables or whether important repressors are missing in order to predict the risk of being NEET with sufficient accuracy using the explanatory variables considered in the model.

The results show that the Hosmer and Lemeshow test is accepted (the Hosmer-Lemeshow value is 175.14) and that, consequently, the overall fit of the model to the data is satisfactory (P-value = 32.23% > 5%). Similarly, we grouped individuals into ten (10) categories. In addition, according to the results in Table 8 below, all categories are well adjusted because the maximum deviation of each group is small and their P-values are greater than 5%.

Table 8. Hosmer-Lemeshow test.

Logistic model for NEET, goodness-of-fit test						
Group	Prob	Obs_1	Exp_1	Obs_0	Exp_0	Total
1	0.123	5	5.1	541	540.9	546
2	0.1845	31	46.8	642	626.2	673
3	0.2136	42	60.7	595	576.3	637
4	0.2497	29	39.4	288	277.6	317
5	0.2773	113	114.5	429	427.5	542

Continued

6	0.3517	152	165.6	421	407.4	573
7	0.5858	291	255.1	221	256.9	512
8	0.8173	434	380.8	113	166.2	547
9	0.9525	479	476.2	57	59.8	536
10	0.9999	500	531.7	40	8.3	540
Number of observations						5423
Number of groups						10
Hosmer-Lemeshow chi^2 (8)						175.14
Prob > chi^2						0.3223

Source: Author's calculations based on ETVA-2022 data.

To conclude this section, we can say that, based on everything we have observed, the model we have chosen is a good one.

All that remains now is to interpret the results we are going to obtain.

One of the successes of the logit model is the possibility of interpreting the exponential of the coefficient of a co-variable as an odds ratio. Another success is that the model allows us to compare the modality of a co-variable with a modality considered as the reference modality of the same co-variable. Therefore, we will estimate our data using the "dichotomized" method, which consists of dichotomizing qualitative explanatory variables with at least three modalities.

Table 9 below summarizes the main results of the dichotomized logistic regression model that was used.

Table 9. Results of the dichotomized model.

			Odds ratio			
	Coefficient	***P*-value**	Value	Lower limit	Upper limit	**Probability**
Age group: [15 - 20] (Reference)						
[20 - 25[	1.29	0.000	3.645	2.974	4.467	78.47%
[25 - 30[	2.42	0.000	11.271	8.682	14.631	91.85%
Activity status: Inactive (Reference)						
Unemployed	1.67	0.000	5.294	3.503	7.999	84.11%
Marital status: Single (Reference)						
Common-law marriage	1.33	0.000	3.779	2.637	5.413	79.07%
Married	1.93	0.004	6.864	1.878	25.087	87.28%
Divorced	0.72	0.196	2.055	0.690	6.116	67.26%
Widowed	0.00	0.378	1.000	1.000	1.000	50.00%

Continued

Having a child: No (Reference)						
Yes	1.56	0.000	4.750	3.793	5.949	82.61%
Level of education: None (Reference)						
Primary	−5.22	0.000	0.01	0.003	0.011	0.54%
Secondary	−5.87	0.000	0.00	0.001	0.006	0.28%
Higher	−6.32	0.000	0.00	0.001	0.004	0.18%
Mother's education level: Higher than child's (Reference)						
Same level	0.56	0.003	1.750	1.207	2.538	63.64%
Lower than the child	0.19	0.320	1.204	0.835	1.737	54.63%
Don't know	1.53	0.000	4.606	2.481	8.552	82.16%
Household standard of living: High (Reference)						
Medium	0.82	0.000	2.266	1.540	3.333	69.38%
Low	1.05	0.000	2.867	1.975	4.163	74.14%
Residential environment: Rural (Reference)						
Urban	1.03	0.004	2.793	2.222	9.337	73.64%
Duration of unemployment: Less than one year (Reference)						
Between 1 and 2 years old	0.90	0.002	2.449	1.405	4.269	71.01%
2 years old and older	1.65	0.003	5.196	3.391	7.964	83.86%
Have you ever turned down a job?: No (Reference)						
Yes	1.05	0.059	2.869	2.512	3.011	74.16%
Networking: Yes (Reference)						
No	2.50	0.000	12.153	6.487	22.770	92.40%
Constant	4.57	0.000	96.881	35.532	264.151	98.98%

Source: Author's calculations based on ETVA-2022 data.

The model's results suggest that the older young people get, the more likely they are to become NEETs. In fact, it has been noted that young people aged 20 - 25 are nearly four times more likely to become NEETs than their counterparts aged 15 - 20. This likelihood increases even further (11 times more) among young people aged 25 - 30. Similarly, it has been found that unemployed people are five times more likely to become NEET than those who are economically inactive.

Young people with at least one child are also more likely to be NEET. In other words, having a child has a significant impact on a young person's likelihood of becoming NEET. They are five times more likely to become NEET than young people who do not yet have children.

Young people with no education are more likely to be NEET than those who have at least a primary school education. In addition, the analyses reveal that young

people with a medium or low standard of living are twice as likely to become NEET as those with a high standard of living.

In terms of place of residence, the model results showed that young people living in urban areas are more likely (three times more likely) to become NEET.

The duration of unemployment also has a significant influence. Young people who have been unemployed for longer are more likely to become NEET. Compared to young people who have been unemployed for up to one year, those who have been unemployed for between one and two years (or two years or more) are twice (or five times) as likely to become NEET.

Job refusal or voluntary unemployment plays a crucial role in the NEET phenomenon. The results of the model show that those who have refused a job are three times more likely to become NEET.

Another important finding of this study is that networking has a significant impact on the NEET phenomenon. Our results show that young people who do not belong to a network are 12 times more likely to become NEET.

6. Conclusion

Analysis of the factors explaining NEET status among young people aged 15 to 29 reveals a multidimensional reality in which the characteristics of the young person, their parents, and their environment intersect. The results show that the variables of gender, disability, father's level of education, parents' employment, and department do not influence the NEET phenomenon in Congo. In other words, the results of the model tell us that men and women have the same chances of being NEET. Living with a disability does not increase the chances of being NEET. Furthermore, it appears that a young person's NEET status is not linked to their father's level of education, nor does the department influence their belonging to the NEET category. On the other hand, the age, employment status, and educational level of young people are major factors contributing to youth inactivity. Disparities in living standards also appear to be significant, with young people living in low-income households being overrepresented. In addition, geographical location (urban vs. rural), duration of unemployment, and lack of belonging to a network accentuate vulnerabilities.

These findings call for a reorientation of public youth policies in Congo, with the implementation of targeted mechanisms for poor young people and urban populations in order to reduce inequalities and promote sustainable integration.

Ultimately, in order to significantly reduce the proportion of NEETs in Congo, an integrated and multisectoral approach is needed. It is essential to simultaneously strengthen the individual capacities of young people, opportunities for economic integration, and the structural conditions that promote their active participation in employment, education, or training. To this end, it is recommended that a national program for transition to employment be established, based on four priority areas.

First, it is necessary to strengthen education and vocational training by mod-

ernizing technical training programs and developing courses tailored to the real needs of the labor market. Particular attention should be paid to young people with low levels of education in order to prevent them from falling into inactivity or long-term unemployment.

Second, the public authorities should accelerate the professional integration of young people by facilitating access to first jobs through paid internships and apprenticeship schemes.

Third, a targeted program for socio-professional integration in urban areas should be put in place, focusing on the creation of economic opportunities adapted to the realities of Congolese cities. This program should be structured around the following actions:

1) Develop urban employment support mechanisms, including career centers, career guidance services, personalized coaching for young graduates, and workshops to prepare them for the job market.

2) Encourage urban entrepreneurship by setting up microfinance, incubators, start-ups, and mentoring programs, particularly in promising urban sectors: digital services, commerce, transportation, the creative economy, micro-industries, and para-professional services.

3) Promote bridges between training and employment by strengthening partnerships with urban businesses to develop paid internships, apprenticeship contracts, and practical training tailored to local market needs.

4) Facilitate access to available jobs, even informal ones, by improving information on urban job offers, reducing the cost of job search (transportation, documentation), and encouraging businesses to gradually formalize the opportunities offered to young people.

5) Implement targeted programs for young people from disadvantaged households to remove barriers related to the cost of living in urban areas (transportation, housing, training, childcare), which often contribute to their exclusion from education or employment.

Finally, particular effort must be made to develop professional networking and partnerships through the creation of local job platforms, young entrepreneurs' clubs, integration networks, and partnerships with private companies. The aim is to strengthen links between young people, economic actors, and institutions, and to facilitate access to training on job and training opportunities.

Responding effectively to these challenges is not only a social imperative, but also an essential condition for fully harnessing the demographic potential of young people and ensuring inclusive and sustainable growth in Congo.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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