



## **Factors Affecting The Socioeconomic Situation Of Recycling Company Suppliers On The Colombian-Venezuelan Frontier**

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### **APA Citation:**

Wlamyr, P.A., Vladimir, D.P.M., Junior, C.R.A., (2020). Factors Affecting The Socioeconomic Situation Of Recycling Company Suppliers On The Colombian-Venezuelan Frontier. *Journal of Language and Linguistic Studies*, 18(3), 661-673.

Submission Date: 03/11/2021

Acceptance Date: 08/02/2022

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### **Abstract**

The present investigation reveals certain factors that characterize the socioeconomic situation of the suppliers of the recycling companies in the border with Venezuela, this investigation was covered mediant the descriptive quantitative method given that the variables were quantified to achieve interpreter through the frequency of responses to formulate the conclusions of the investigation, in total the population of 94 suppliers characterized or registered by the Association of Recycling of Villa de Rosario of which, 27 are formally linked to the association and the remaining are informal but, characterized. The survey data were analyzed using Microsoft office Excel and Microsoft office Word software for analysis and tabulation of the results, where each question and its corresponding answer was recorded, which were obtained from the surveys that each participant answered manually. It was concluded that the socioeconomic determinants of the population studied are the lack of job opportunities given that the context studied has high indicators of informality, which directly affects the formality of the workers, additionally, the migrant population has the greatest lack of job stability, these families are numerous and have only one income for their support, so there is no guarantee of economic stability, decent housing and social security.

**Keywords:** recyclers, socioeconomic situation, suppliers.

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### **1. Introduction**

Waste has always been a problem that brings great difficulties and challenges, not only for governments but for citizens, mainly due to the effects generated by garbage on different fronts, one of them and perhaps the slightest, is the negative visual impact to ordinary people when they come across places almost overflowing with garbage level, This situation is very common for the Colombian case and for the city of Medellin, however, from these wastes there is an enormous possibility for the generation of income and opportunities since many of these wastes can return again to the productive chain and

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therefore will fulfill again a productive cycle.(Rivas, 2003a; Valencia, 2003a). The utilization activity reduces the tons that are disposed of in landfills or other types of final disposal sites, which in turn reduces environmental impacts. (Superservicios, 2017). With the above mentioned we can conclude that the recycling industry generates job opportunities and utilization and at the same time we help to beautify our planet.

"In Colombia, about 30 thousand people walk the streets on foot to recover, from among the garbage, usable waste that they later manage to sell as economic sustenance for their families." (UNDP COLOMBIA, 2018).. In this way it is the recyclers who do the most work in the recycling industry, the risks to which they are exposed by lack of protection at the time of working in this activity and the high working hours for very low prices that do not reflect the importance of this of this activity.

It is important to mention that the activity of recycling, apart from being necessary, should be considered a mandatory task due to the increase in pollution that has been generated in recent years due to the increase of lucrative activities, poor waste management and the lack of citizen culture, due to the inadequate use of natural resources. It is necessary to have clarity about the process for the generations of processes and at the same time to look for alternatives that make recycling a scheme that generates financial resources, that involve production processes without affecting the existing natural resources and that at the end of the exercise contribute positively to sustainable development and provide healthy environments of coexistence. (Cuervo B. et al., 2012; Hurtado et al., 2008). This problem has been captured by several authors especially for today given the awakening of a massive concern for waste management and pollution due to the accelerated environmental degradation that the world is going through and in the framework of the fulfillment of the objectives of sustainable development, taking this into account and taking the existing information for the recycling market in the city of Bogota it was found that the average size of the recycling sales market for the year 2017 was around 400.000 million pesos of which approximately 33% (131 billion) were paid in one year to the more than 13 thousand recyclers that are in the capital of the country, with these figures we obtain a gross remuneration of \$797,522, this figure not only covers the payment for their efforts but from there we deduct the costs in which I can incur the recycler at the time of performing their work such as transportation, storage, tools, food , among others. (Moreno Rodríguez, 2018)

The amount of non-recyclable solid waste was obtained from the historical records filled out by the cleaning staff of the Regional and each Zonal Center in the format Waste Control, obtaining a generation for the year 2015 and 2016 of 6300 kg and 7200 kg respectively, this increase was probably presented by the volume of work contracts that were executed during the last quarter of 2016, for which a greater number of people remained in the Regional and Zonal Center Cúcuta I especially. (Instituto Colombiano de Bienestar Familiar ICBF, 2017).. According to the annual natural resources report of the Comptroller's Office, as of October 2016, 92,181 tons of solid household waste were generated.

According to the International Labor Organization (ILO) in Colombia, 9.0% of the population is unemployed and 42.4% live on their own non-formal jobs, 56.8%, that is, about half of the employed are employed in informal sales in which income fluctuates depending on the day of the week. (Rivas, 2003b). Sales are unstable, so workers obtain their wages on a daily basis. They do not know their real salary, since they do not keep accounts and it is weighted in relation to their ability to meet daily and household expenses. Access to credit with banks is limited. Access to education and health care is almost impossible due to their deficient economic resources. (Valencia, 2003b).

## **2. Method**

Descriptive research has as its objective the precise description of the event under study, this type of research is associated with diagnosis; the purpose is to expose the event under study, making a detailed enumeration of its characteristics, so that in the results two levels of analysis can be obtained depending on the phenomenon or the purpose of the researcher, this research works with one or several elements of study in a given context, but its intention is not to establish causal relationships between them for this reason they do not merit the formulation of hypothesis. (Hurtado de Barrera, 2002a)..

It is descriptive because the research was based on the socioeconomic situations of the people dedicated to recycling. The previous process was evaluated through the application of the survey where patterns were established that indicated a social characterization in aspects of education, housing, health, income, which allowed us to diagnose the current situation of the quality of life of the population under study.

### *2.1. Technique*

The first level of scientific knowledge about a research problem is achieved through exploratory studies; their objective is the formulation of a problem to enable a more precise investigation or the development of a hypothesis. "Their essential purpose is to familiarize us with an unknown, novel or scarcely studied topic. They are the starting point for subsequent studies of greater depth". (Behar Rivero, 2008a)

Descriptive studies: They are used to analyze how a phenomenon and its components are and how they manifest themselves.(Arias, 2006). They make it possible to detail the phenomenon studied basically through the measurement of one or more of its attributes. "These studies describe the frequency and the most important characteristics of a problem. In order to carry out descriptive studies, two fundamental elements must be taken into account: Sample and Instrument". (Behar Rivero, 2008b; Hurtado de Barrera, 2002b).

The type of study to be carried out was exploratory and descriptive, since we traveled to the study area where recycling activities are carried out, in order to know the social responsibility of the recyclers who earn their living formally and informally in this activity; this study was supported by a survey of the target population.(Balestrini, 2002).

### *2.2. Population*

The population that was taken into account for the development of this research and that will be the object of study is made up of recycling suppliers in the border context, which is made up of 27 formal workers and some 67 informal suppliers.

### *2.3. Sample*

The total size of the population is 94 suppliers within which 27 are formal employees and 67 are informal, the type of sampling is intentional or convenience because the researcher will voluntarily choose elements that will make up the sample, assuming that this will be representative of the reference population. In which the population under study will be the total of formal and informal workers 94 suppliers.

#### *2.3.1. Convenience sampling:*

Purposive sampling: also known as biased sampling. The researcher selects the elements that in his opinion are representative, which requires prior knowledge of the population under investigation (Rivero, 2008).

The researcher chooses members only because of their proximity and does not consider whether they really represent a representative sample of the entire population or not. When this technique is used, habits, opinions, and points of view can be observed more easily.

Researchers use sampling techniques in situations where there are large populations to be evaluated, since, in most cases, it is almost impossible to test an entire population.

#### 2.4. Instrument design

The next instrument for data collection is a questionnaire to evaluate the different socioeconomic factors of the company's supplier population, the instrument is composed of a total of 25 questions of which several of them are multiple choice. The research approach was quantitative, since the analysis was based on quantities and statistical tools that allowed establishing a numerical process to weight the different variables. The instrument was created to know the socioeconomic conditions of the recyclers and finally allowed analyzing impacts with a descriptive method, at the same time allowing the socioeconomic situations of the population under study dedicated to recycling to be known. The survey established patterns that indicated a social characterization in aspects of education, housing, health, income, which allowed us to diagnose the current situation of the quality of life, income and risk factors to which they are exposed performing these activities, as well as to know the social responsibility that the association of recyclers has towards the recyclers who get their livelihood in a formal and informal way within this activity.

We sought to stratify the study population, as well as to know the characteristics and individual and collective circumstances that allow us to identify risks, prioritize activities and obtain data. In relation to the above, we sought to respond and categorize the amount in alphanumeric value of the study population that is the focus of support for the family nucleus, to describe the conditions to which they are exposed as immigrants.

The pilot test (PP) is part of the Methodological Framework of Research Projects, according to (Navarrete, 2006). Until proven otherwise, direct measurement is the one that guarantees the most accurate values of the dimensions considered. Neither the instrument nor the technique used requires a special validation of results, it is advisable to ensure the goodness of the measurement procedure, including the instrumentation, through a PP The anthropometric data to be valid must be obtained with methodology defined by experts in that field, which guarantees: respectability (r), reproducibility (R), linearity, reliability (R), and is maintained in the ranges that minimize measurement errors. The general objective is to perform a PP to validate the results of the measurements obtained with the method and physical instruments for anthropometric data collection.

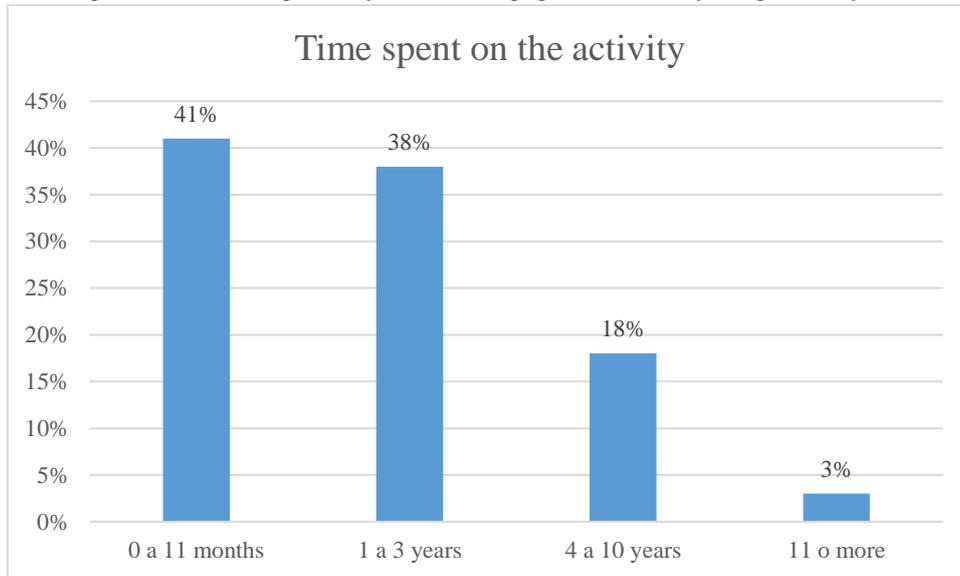
### 3. Results

Table 1. Time spent on the activity

Range	Quantity	Percentage
0 to 11 months		0,41
1 to 3 years		0,38
4 to 10 years		0,18
11 or more		0,03

Source: own elaboration

Figure 1. How long have you been engaged in the recycling activity?



Source: own elaboration

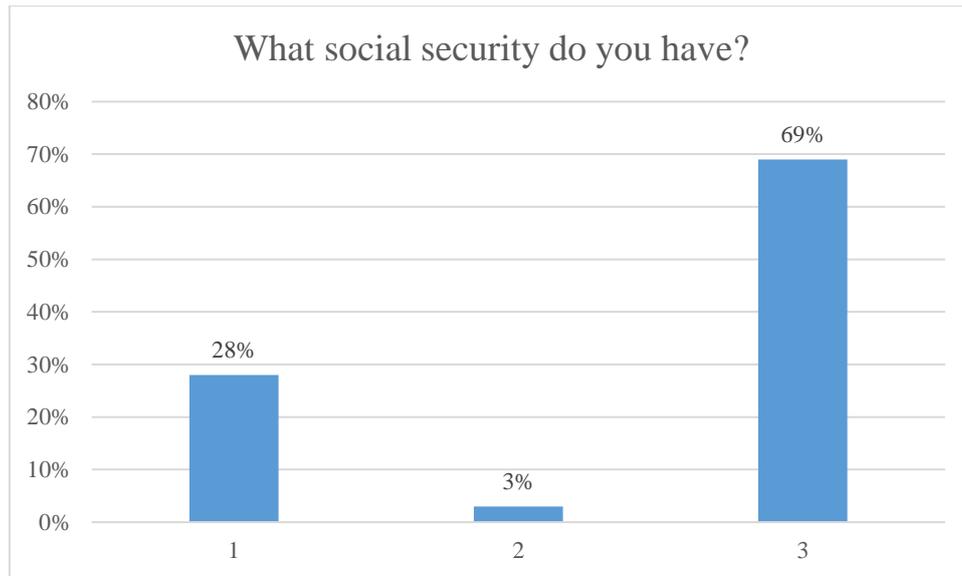
When asked how long they have been engaged in the recycling activity, the highest percentage of the participants, 41% of the study population, answered from 0 to 11 months, as well as being undocumented and not having a job opportunity, 38% answered 1 to 3 years, time that is parallel to the border closure, This activity has gradually increased due to the fact that they did not find a stable job, so they opted for this alternative to generate daily income. 18% responded 4 to 10 years, 3% responded 11 or more years in this trade, these people started this work at a very early age because their parents are also recyclers and they did not see in the study a better way to get ahead.

Table 2. What social security do you have?

Rank	Quantity	Percentage
Subsidized		28%
Contributory		3%
None		69%

Source: own elaboration

Figure 2. What social security do you have?



Source: own elaboration

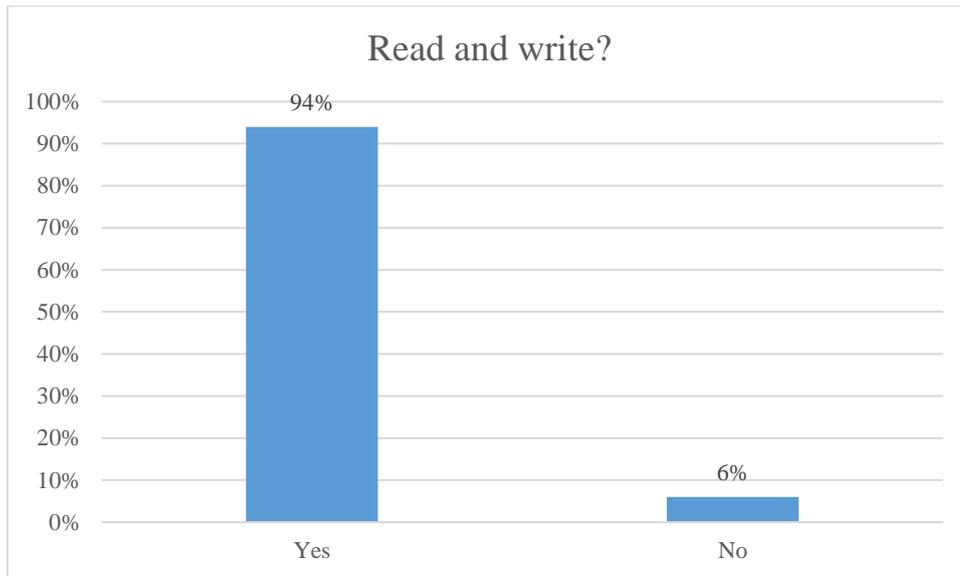
Regarding the social security question, it can be inferred that 69% correspond to people who are not affiliated to any social security system in the country, of those surveyed stated that they do not have any link to social security, whether subsidized, contributory or beneficiary, and do not know where to access health services. Twenty-eight percent are in the subsidized health care system and 3% are affiliated with the contributory system. The problem of garbage and inadequate management of industrial and household waste is undoubtedly one of the main factors that damage public health and pollute the environment, but this lack of waste management also hinders the work and directly affects the health of recyclers.

Table 3. Read and write

Rank	Quantity	Percentage
Yes	88	94%
No		

Source: own elaboration

Figure 3 Reads and writes



Source: own elaboration

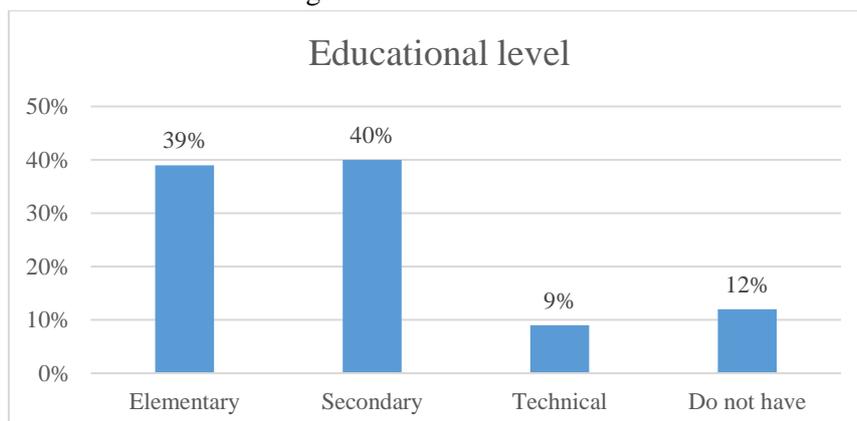
In relation to the questionnaire question whether they read or write, 94% of the study population (88 people) answered yes, that is, they have a minimum level of education, while 6% (6 people) answered that they do not have any type of academic training. Most of the study population has a basic level of education.

Table 4 Educational level

Rank	Quantity	Percentage
Elementary		39%
Secondary		
Technical		9%
Do not have		12%

Source: own elaboration

Figure 4. Educational level



Source: own elaboration

In relation to the educational level of those surveyed, 40% mentioned having completed high school, 39% of those surveyed completed elementary school, and only 12% of those surveyed stated that they had not received any type of education, which shows that this economic activity is discriminated against by society, as these people are seen as inferior due to lack of training, This is due to the lack of state

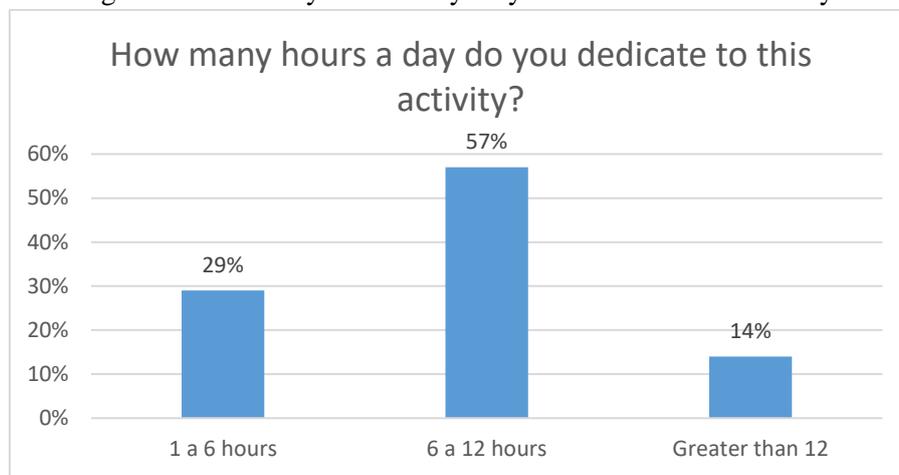
entities that do not offer academic programs to this population dedicated to the recycling activity and that due to their low income they cannot access it. In terms of education, technical and technological education, 9% recyclers were found to reach this level of schooling, so we can conclude that due to lack of opportunities they have to leave their professions and seek new opportunities to be able to support their needs.

Table 5. How many hours a day do you dedicate to this activity?

Rank	Quantity	Percentage
1 to 6 hours		29%
6 to 12 hours		57%
Greater than 12		14%

Source: own elaboration

Figure 5. How many hours a day do you dedicate to this activity?



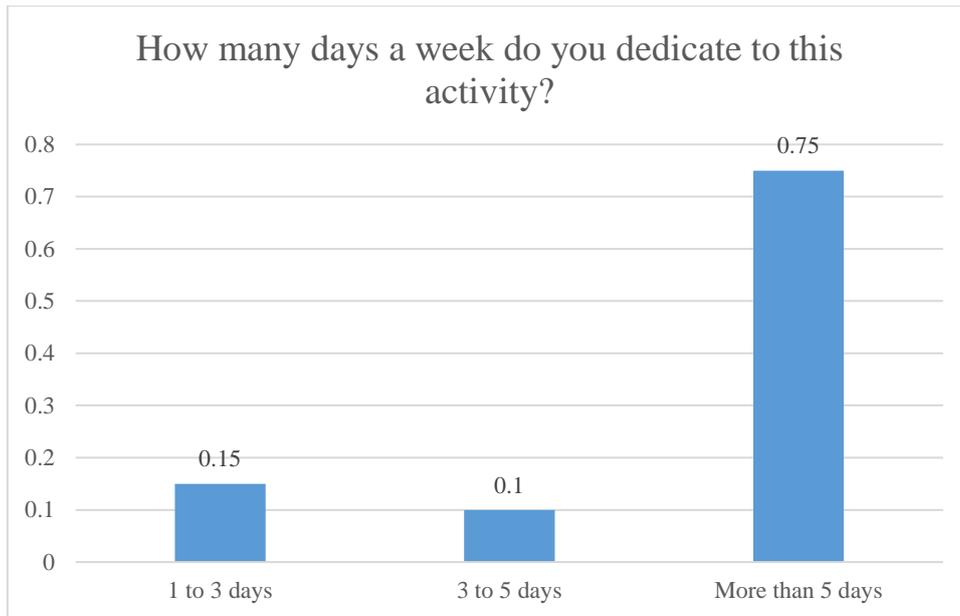
In addition, they must travel the city in search of recyclable material, starting in the early hours of the morning and working long days; 29% indicated that they work from 1 to 6 hours a day and that they have a schedule where they know the days when the garbage collection vehicle comes by, which makes their work easier because they are more willing to find recyclable material; and 14% indicated that they work more than 12 hours to generate more income.

Table 7 How many days a week do you dedicate to this activity?

Rank	Quantity	Percentage
1 to 3 days		
3 to 5 days		
More than 5 days		75%

Source: own elaboration

Figure 7. How many days a week do you dedicate to this activity?



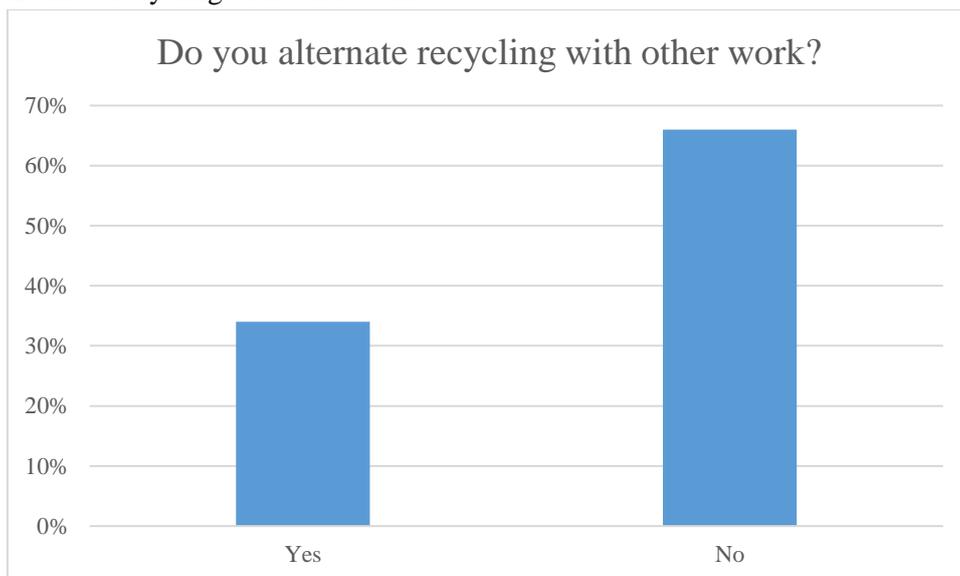
Source: own elaboration

The days of the week used by recyclers to perform their work are related to a greater extent with the days of solid waste collection in the municipality Monday, Wednesday, Friday and Saturday, as shown in Figure 75% of respondents spend more than 5 days a week in recycling mainly on collection days, while 15% spend 3 to 5 days a week and 10% work all week, which alter it with the days of collection of the municipality yards.

Table 8. Alternate recycling with other work

Range	Quantity	Percentage
Yes		34%
No		66%

Figure 8. Alternate recycling with other work



Source: own elaboration

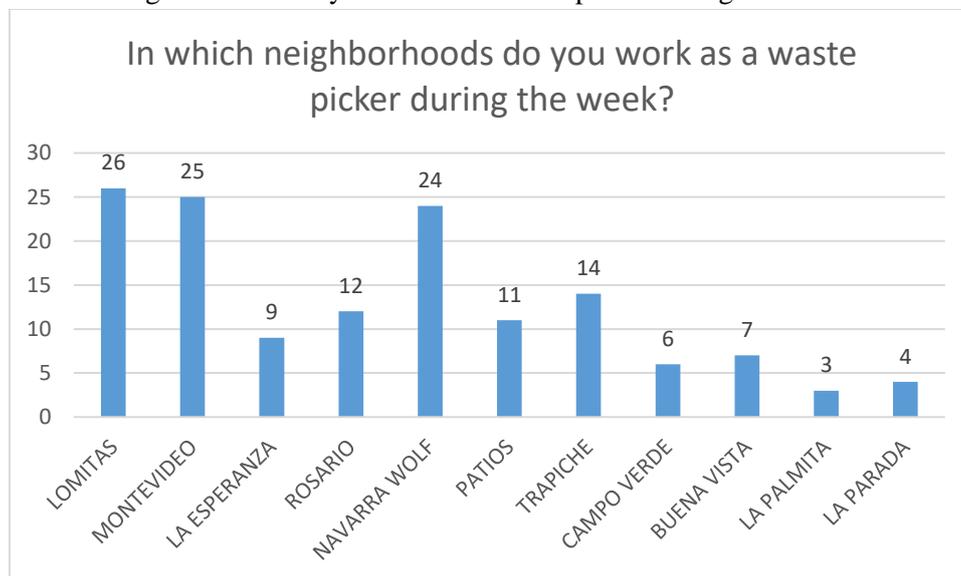
When asked if they alternate recycling with other work, 62 people answered no, which means that they depend exclusively on this occupation as their only source of income, while 32 people answered that they alternate it with other temporary jobs such as construction help, housewife, and manual labor.

In which neighborhoods do you work as a waste picker during the week?

Neighborhood	Quantity
LOMITAS	26
MONTEVIDEO	25
HOPE	9
ROSARIO	12
NAVARRA WOLF	24
PATIOS	11
TRAPICHE	14
GREEN FIELD	6
GOOD VIEW	7
LA PALMITA	3
THE STOP	4

Source: own elaboration

Figure 9. In which neighborhoods do you work as a waste picker during the week?



Source: own elaboration

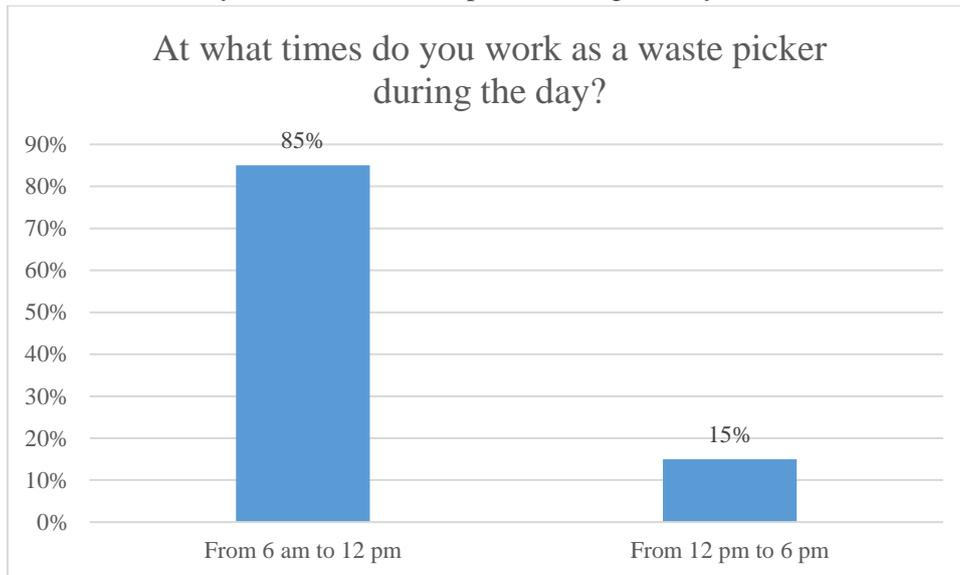
In the questionnaire question in which neighborhoods do you work as a recycler during the week, they go through the municipalities of Villa Rosario and Patios, alternating them with the days of garbage collection, more frequently in specific areas such as Montevideo, Lomas, La esperanza, Navarro Wolf, trapiche, Campo verde, it should be noted that the neighborhoods mentioned are close to the warehouse where the collected material is sorted and sold.

Table 10. At what times do you work as a waste picker during the day?

Range	Quantity	Percentage
From 6 am to 12 pm	82	85%
From 12 pm to 6 pm		

Source: own elaboration

Figure 10. At what times do you work as a waste picker during the day?



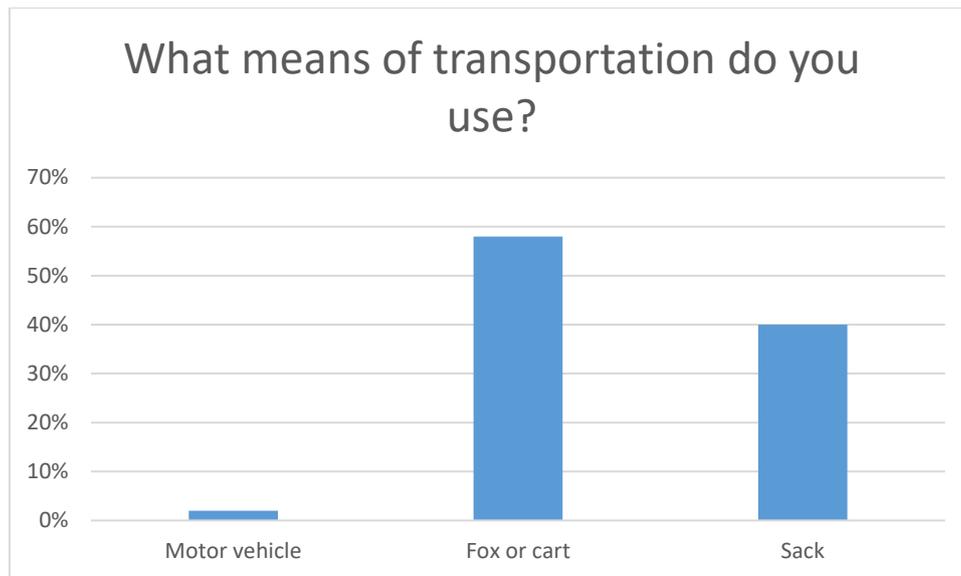
Source: own elaboration

When asked how many hours a day they dedicate to this activity, 85% of the population answered from 6 am to 12 pm. It should be noted that at the time of interviewing the respondents, they commented that their route schedule begins at 4 am for various reasons such as less traffic on the roads, at the same time it allows them to reach the garbage collection points before the trucks providing sanitation services, 15% answered from 12 pm to 6 pm.

Table 11. What means of transportation do you use?

Range	Quantity	Percentage
Motor vehicle	2	2%
Fox or cart	54	58%
Sack	38	40%

Source: own elaboration



Source: own elaboration

When asked what means of transport they use to recycle, 58% of the population answered "zorra" or "carreta" as these allow them to move and move the material in a manageable way when making their journeys, 40% use a sack because they are not linked to an association, they do not have the same opportunity to have a means of transport in which they can move the material in an easier way and we identified that 2% who use a motor vehicle (motocarro) are affiliated to the association and therefore are recyclers by trade.

#### 4. Discussion and conclusion

In the Montevideo neighborhood, 70 men and 24 women were surveyed, who normally carry out their work with the help of their families and who see recycling as a work alternative with which they support their families. These people dedicate between three and eight days a week to their work and many of them work more than the legal daily hours, in spite of the work disadvantages they have and the risks they are exposed to due to waste management.

The factors that affect the socioeconomic determinants of recyclers are the lack of job opportunities, added to the fact that most of them are migrants, the absence of job stability due to informal employment, since they are not directly linked to the company, and the fact that most of them are from large families with only one income, The majority of these families are heads of family and this is an impediment to guarantee basic needs such as decent housing, social security, they do not have economic stability because they depend mostly on the production obtained in their daily lives due to not having an established salary.

The educational level of the population of recyclers surveyed in terms of education, most of them are high school graduates who, due to the situation in Venezuela, had no choice and had to emigrate to another country and leave their studies unfinished, in less representation they have higher education, so we can conclude that due to the lack of opportunities they had to leave their professions and seek new opportunities to support their needs.

In terms of technical education and/or training on solid waste is low, which reduces the possibility of carrying out processes with which they can give an added value to the materials they recover and thus

increase the income they receive from this work. At present, there are very few labor, educational and incentive programs in the city for those who are dedicated to this trade, highlighting that there are many proposed programs that have not been implemented or that have not had sufficient coverage and that progress in this activity is slow compared to the importance of this environmentally friendly practice and its contribution to the sustainable development of our planet.

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