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Survival and Opportunity: Self-Employment among Women Heads of Families in Mato Grosso's Agribusiness and Traditional Sectors

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With the development of the industrialization process of societies, there was a separation between the home and the workplace, making them distinct spheres, the public and the private. Men, who carried out their work outside the home, began to participate more in the public sphere, while many women remained in the private sphere, in the domestic sphere, linked to the tasks of taking care of the house and children.

In recent decades, however, we have witnessed an increase in the departure of women from the sphere of domesticity and their greater participation in the public sphere, especially in the labor market (Schaefer, 2006; Giddens, 2015).

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I. INTRODUCTION

For most of the population of pre-industrial societies there was no separation between productive activities and domestic activities. Work was carried out at home or in its vicinity. This situation changed with the advent of modern industry, which caused a separation between the home and the workplace (Giddens, 2005; Nolan & Lenski, 2015).

With the development of the industrialization process of societies, there was a separation between the home and the workplace, making them distinct spheres, the public and the private. Men, who carried out their work outside the home, began to participate more in the public sphere, while many women remained in the private sphere, in the domestic sphere, linked to the tasks of taking care of the house and children.

In recent decades, however, we have witnessed an increase in the departure of women from the sphere of domesticity and their greater participation in the public sphere, especially in the labor market (Schaefer, 2006; Giddens, 2015).

The 2022 Brazilian census points out that more than fifty percent of Brazilian families are headed by women, a proportion that represents an increase of more than fifteen percent compared to 2010. This implies changes in the labor market, in the structure of the family, and the demographic composition of Brazilian society.

Concerning the labor market, some studies (Blanchflower & Meyer, 1994; Gindling & Newhouse, 2014; Karki & Xheneti, 2018) have shown that a significant number of women are self-employed. Most of the work in developing countries is self-employment. The types of self-employments vary from country to country, whether it is agricultural or non-agricultural, and according to the socio-demographic profile of women. The increase in the number of families headed by women and who live off their self-employment is a change that deserves investigation, either because we have a significant number of new actors entering the

labor market, or because this is linked to new types of family structures.

Economist Gary Becker (1965) describes the family as a small factory where individuals' time is an input to produce their daily activities. From this perspective, women face higher opportunity costs when entering the labour market due to the time allocated to unpaid activities such as motherhood and domestic care.

The family is a type of organization, the bearer of a social structure that has been undergoing substantial changes. Family and friendship groups generally function outside of what is considered a broader organization. Still, as populations grow and the dimension of social life increases, organizations begin to penetrate more into our daily lives (TURNER, 2000).

In contemporary Brazil, families are experiencing new organizational forms, stimulated by demographic shifts and economic and social transformations that have shaped their structure and morphology.

Single-parent families have become an essential element of our family system; about a third of women and children spend time in these families. Understand the consequences of the experience of living in a family with just a one parent can be interesting in economic and social terms, when we are concerned about the development of children (BUMPASS & RALEY, 1995).

These transformations have generated changes in the social behavior of Brazilian women. Data from Brazilian census (IBGE) shown a decrease in women's fertility rates and an increase in their participation in the labour market and their level of education. All of this has enabled women to contribute more significantly to the family budget. Around a third of Brazilian families have a woman as an economic reference person in their household. All these changes represent fundamental transformations in the social structure of the Brazilian family (IBGE, 2010).

The data have shown that even in regions where cultural values are recognized as more traditional, women have stood out in terms of schooling and in the condition of being the head of the family. The types of family organizations have changed. According to the data, there has been an increase in single-person family

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organizations, the number of families with a spouse and children has decreased, and the number of family structure with a spouse and without children has increased.

The increase in family organizations in which the woman is now the head of the family can be manifested in single-parent families, in which the woman without a spouse exercises this condition with her children, or in family organizations in which she, with a spouse and with children, is the reference person.

The greater participation of women in the labour market has been carried out according to the nature of societies: stratified. Women who could study and fulfil themselves in prestigious occupations tend to occupy good positions, still women who are born into the lowest socioeconomic positions, have children earlier, and do not have a husband or a partner tend to face significant challenges. Many of them work in self-employment.

Women in such conditions are often part of the informal economy and because of that, your business are not registered and they cannot fully report their production or sales for taxes purposes (Karki & Xheneti, 2018).

The systematic review research carried out by Lacerda and Souza (2020) on the relationship between self-employment and women's condition of heading the family showed that self-employment appears linked to the social situation of immigrants, minorities, older people, and women married with children or not married with children.

According to the literature expressed in the systematic review by Lacerda and Souza (2020), self-employment and being the head of a household are related to having children. But, probably, the woman's condition in a single-parent family differs from that of a two-parent family. In the single-parent family, there is neither the income nor the help that the husband can give to his wife to domestic services such as taking care of children. Lacerda and Souza (2020) suggest that taking care of children is a limiting factor in the self-employment activity of mothers.

Data from the 2022 Census indicate that most Brazilian households are now headed by women. In Brazil, states such as Pernambuco, Maranhão, and Sergipe draw attention to the high rate of households headed by women. Mato Grosso, a state whose economy is driven by agribusiness, has one of the lowest rates of female-headed households in Brazil. But, within the state, we have differences between municipalities, for example, those that are economically linked to agribusiness and those with a traditional economy. There are municipalities with socio-economic data like municipalities in Pernambuco, Sergipe, and Maranhão. The city of Santo Antônio do Leverger has indicators similar to those of those states.

Investigating the differences between the socioeconomic profiles of mothers who are heads of

households in single- and two-parent families can be an interesting starting point for knowing the differences in the types of self-employments developed by Brazilian mothers. This study proposed to compare the mothers of single-parent and two-parent families in the sample of female heads of household in the condition of self-employment according to microdata from the CENSUS/IBGE (2010) and a small sample of data collected in 2024 for the municipalities of Santo Antônio do Leverger (Leverger), a region with a traditional economy, and for Campo Verde, with an economy based on agribusiness.

Unfortunately, IBGE data for municipalities are only available up to 2010. To have more up-to-date data, we did some interviews in the two municipalities in 2024.

The two towns are located close to the capital of Mato Grosso, Cuiabá. Leverger is 30 km away, already in the Pantanal region. Campo Verde is 130 km from Cuiabá and is located 93 km northwest of Primavera do Leste, the largest city in the outskirts of that micro-region.

The fundamental idea is to compare two municipalities with very different economies. One municipality has an economy based on traditional agriculture and livestock is poor and has decreased in population size. In this case, Santo Antônio do Leverger. The other is considered a more prosperous municipality with an economy focused on agribusiness. The opportunities must be very different for a mother who is the head of a household who resides in one or another municipality. We expect to find differences between mothers who are heads of mono households and those who are heads of two-parent families.

Unlike a few years ago, when, in two-parent families, the husband had one salary, and the wife stayed at home, today, this arrangement has been replaced by the notion of a two-income household.

As the greater participation of women in the labour market has shown, the increase in the number of couples with two incomes is related to financial need, a drop in the birth rate, an increase in women's schooling, and the impact of the feminist movement on the transformation of women's consciousness (SCHAEFER, 2006).

Raising children in two-parent family is very different from raising children in two-parent families. Living in a single-income family with only one parent present can be economically stressful. A family headed by a single mother faces even more challenging problems when it involves, for example, a teenage mother, a condition of a significant proportion of Brazilian mothers (Schaefer, 2006).

From a socioeconomic perspective, it can be said that, hypothetically, families with two parents are expected to enjoy better economic conditions, due to the possibility of having two incomes e two caregivers, which implies less emotional stress for the parents.

Theoretically, a biparental family can expect a better economic situation due to the possibility of having two incomes and less emotional stress, as the task of taking care of children can be divided between the parents. In a single-parent family, this tends to overwhelm the head of the family present, usually the mother (Casper & Bianchi, 2002).

Due to the greater economic instability experienced by single-parent families, some scholars suggest that women heads of single-parent families have, on average, lower income and education than women heads of single-parent families (BERQUÓ, 2001; MENDES, 2002).

In the comparison between the municipalities of Santo Antônio do Leverger and Campo Verde, both in economic terms and terms of schooling, the mothers, both from single- and two-parent families, from Campo Verde, an agro-industrial municipality, are expected to be in a better situation than the mothers from Santo Antônio do Leverger, a city more fundamentally focused on livestock and subsistence agriculture.

Santo Antônio do Leverger is a low-income municipality primarily sustained by fishing tourism and subsistence agriculture. Its population today is around 15.246 people (IBGE, 2022), which indicates that the city has been decreasing in size, as it was 17.000 (IBGE) in the year 2000, most likely due to the few economic opportunities. Part of its population works in the capital, Cuiabá, about 30 km away. Its HDI is 0.736, considered average, and its GDP per capita (IBGE, 2018) is R\$ 47.655,17.

Campo Verde has more than 44.585 inhabitants (IBGE, 2022). Agribusiness is the municipality's primary source of funds. The main economic activities are cotton cultivation and raising pigs and poultry, basically chickens. Campo Verde's HDI is 0.750, which is considered high, and its GDP per capita (IBGE, 2021) is R\$ 113.394.08, the fourth in the State of Mato Grosso.

II. THEORETICAL FRAMEWORK

The choice of rational choice theory to study the behavior of female heads of households who practice self-employment assumes: human action is understood to be goal-oriented and instrumental. Individual and institutional human actors try to achieve the achievement of their goals as much as possible. This assumption is called the assumption of rationality (TSEBELIS, 1998; SANDERSON, 2001).

In the family, the choices of its members can be modeled based on rational choice: marriage, children, divorce, and the type of work to be performed are actions based on the comparison of costs and benefits. In other words, seen from perspective of the theory of rational choice, mothers, and heads of single- or two-parent families are social actors who rationally calculate the costs and benefits of their choices. Social actors

make rational choices about the meanings they give to their goals rather than the goals themselves. In other words, values and beliefs are decisive variables in choosing the social actor. The mother of a single-parent family makes choices based on her context of restrictions, beliefs, and values. She may forgo investing in her schooling because her resources are limited, and she prefers her daughter or son to do it.

At the end of the 1990s, Hechter and Kanazawa (1999) took stock of the applications of rational choice theory to the most different research topics, showing its development and explanatory power. About family or gender-related issues, some studies have made good contributions (Youm & Laumann, 2004; Himmelweit Et Al, 2013; Gindling & Newhouse, 2014; Youm & Lee, 2016; Knight & Brinton, 2017; Abraham & Ohemeng & Ohemeng, 2017; Karski & Xheneti, 2018).

For rational choice theory, rational calculations made by social actors are subject to at least two types of constraints. The first type, which we can call external structural limitations, concerns all the physical, economic, legal, and psychological coercions that the individual is faced with. According to Elster (1994), the actions consistent with these coercions form their set of opportunities. That is, individuals face opportunity costs or costs related to the actions of their choices (Hechter; Kanazawa, 1999; Sanderson, 2001). A single-parent mother encounters this first type of constraint when, due to limited economic resources, she must choose between investing in her training or prioritizing her children's education.

Therefore, single-parent families deal with more resource constraints than two-parent families. This hypothesis is consistent with what has been defended in the sociological literature regarding the differences between single- and two-parent families (Casper & Biachi, 2002; Giddens, 2005; Schaefer, 2006).

The second type of constraint, which prioritizes internal mechanisms, refers to the mechanisms that determine which action of the opportunity set will be performed (investing in your education or that of your children?). When she chooses that, although she needs to improve her level of education, the available resources allow only one investment to be made and, therefore, it should be her son or daughter, the mother of a single-parent family is dealing with this type of restriction. That is, she chooses that her son or daughter receive the investment that could improve his or her schooling and, therefore, increase his or her range of choices about self-employment or another type of work. But, he believes that at that moment it is better to invest in the schooling and training of his children.

The self-employment condition concerning mothers, particularly those from single-parent families, is closely associated with low income and limited educational attainment. Self-employment is understood here as the work situation in which the person works for

himself. That is, she has no institutional or employment relationship. The housewife bakes cakes to sell, and the seamstress who work at home are examples of self-employment. Following Pamplona's definition (2001: pg3), the self-employed person can be characterized in a general way "by independence, autonomy, and control over his work process (activity itself, raw materials, means of production)".

Hypothetically, in self-employment, the owner of the means of production participates directly in productive activity. He deals with uncertainties because his income is not previously defined since it will depend on his work, his capital, and the direct demand of the market for goods and services. In this case, the fundamental objective of work is to make one's job (means of subsistence) feasible and not to value one's capital (Pamplona, 2001).

The main variables that determine the condition for women to become self-employed are the desire to make working time more flexible (given that in formal employment, they would have to "work hours"), to have children, and whether the husband is also self-employed (Omori; Smith, 2010). Certain factors, such as household chores, childcare responsibilities, and an inactive spouse, can negatively impact self-employment, often turning it into a 'third shift' (Rønsen, 2014; Welsh, 2017).

Sociological rational choice theory is relevant because it can help us better understand whether the calculations of mothers of single- and two-parent families differ regarding their choices between self-employment and wage employment and whether the age of their children influences the type of self-employment that is performed.

One can think of the relationship between self-employment and the life cycle of families in the sense that Carter and McGoldrick (1995). Being clearly state that the changes are different for men and women. Women have played central roles in family structures, but the idea that they have a life cycle that does not necessarily coincide with their roles as mother and wife is an idea recent (McGoldrick, apud Carter & McGoldrick, 1995).

Women who pursue self-employment generally carry out activities with which they are somewhat familiar, in which they have a certain level of specialization (ADO, 2017) or that represent innovations in the day-to-day problems of women who take care of the home, as in Ekinsmyth (2012), which shows women who have created "mother-to-mother" enterprises. Over the years, the image of women has also come to be associated with the head of family and business success (Bobrowska, Conrad, 2017).

From an economic perspective, single mothers rarely receive high salaries. They find it very difficult to work long hours since they must also take care of their children. Many receive child support for their young

children from the absent father. While single mothers are eligible for various forms of public assistance, neither legislators nor voters wanted to make such generous assistance, lest generosity encourage even more women to raise children on their own. There is a hypothesis that in the United States, the spread of single-mother families would play a significant role in the persistence of poverty. In 1964, when Lyndon Johnson declared war on poverty, only 30 percent of low-income families with children were headed by single mothers. Since the late 1970s, the figure has been about 60 percent (Ellwood and Jencks, 2004).

Not all children from broken families live with what the English call a lonely mother, but other living arrangements are less likely to leave children in poverty. Mothers who divorce and remarry tend to do just as well economically as mothers who remain married to the biological father of their children (Ellwood and Jencks, 2004). Single mothers who cohabit with a boyfriend also tend to have significantly more household income than those who are self-employed ones. However, it is unclear how much of the typical boyfriend's income is available to support the mother's children. And when single mothers live with their fathers or other relatives, they also face fewer problems than when they live alone.

The socioeconomic situation of single-parent families tends to worsen when they are located in socioeconomic environments with few opportunities. The comparison between the municipalities of Santo Antônio do Leverger and Campo Verde can help us to problematize the reality of women heads of families who face economic difficulties and who try to circumvent these difficulties by performing self-employment. Self-employment can be a way out in economic environments with good opportunities, but theoretically, it tends not to solve most of the financial problems of these families. Let's see what the comparison between the municipalities shows us.

Family structure is crucial in examining the implications of low-paid or low-wage work across families. Two components related to family structure help determine a family's economic status: (1) the total income of the family and (2) the proportion of dependents who are salaried in the family. The number of family members and the age, sex, marital status, and workforce status of each member influence both of these components (Casper & King, 2004).

Casper & King (2004) understand that defining low-paying jobs can be complicated and somewhat arbitrary. The meanings and implications of a low-paying job are likely to differ depending on an individual's characteristics and circumstances. Casper & KinK (2004) suggest a comparison: a high school student might be enthusiastic about a part-time job that pays half the minimum wage, while an unemployed civil engineer who can only find a job as a math teacher at a private school that pays \$500 per class would likely

consider his new job a low wage. Family structure, the change in the composition of families over time, the age of the individual, and his attachment to the labor force affect the economic well-being of workers and their families (Casper & King, 2004).

That is the more paid adult-paid workers in the family, the more income the family is likely to have, all else is equal. In addition, the more dependent children or other non-apprentices a family has, the more people there are for support and support. Generally, men tend to earn more than women. As a result, two-parent families generally have more financial stability than single-parent families. Thus, a low-wage job means something very different in a single-mother family in which a mother has to support herself and two children than in a two-person family in which the husband has a well-paying job, and his wife supplements her income with a part-time, low-paying job (Casper & King, 2004).

In Brazil, families headed by women have been characterized as a typical urban phenomenon and single-parent families are younger, with a lower level of education than mothers in two-parent families and significantly more inserted in the informal job market (Berquó, 2001; Mendes, 2002).

Three hypotheses were formulated, inspired by sociological theory of rational choice. They seek to highlight the distinction between single-parent and two-parent families in Santo Antônio do Leverger and Campo Verde.

H1- Since single-parent mothers face more resource constraints than mothers in two-parent families (where there are usually two incomes), it can be argued that single-parent mothers tend to have lower levels of education than those in two-parent families. This hypothesis is compatible with what the sociological literature defends when comparing single- and two-parent families (Casper & King, 2004; Berquó, 2001; Mendes, 2002).

H2- We expect to find a greater diversity of self-employment activities among mothers who are heads of households in Campo Verde than among mothers who are heads of households in Santo Antônio do Leverger. This hypothesis is anchored in the socioeconomic profiles of the two municipalities and the general sociological hypothesis that argues that population growth generates social differentiation through the division of labour.

H3- Mothers from single-parent and two-parent families tend to perform simpler self-jobs in Leverger than in Campo Verde. The social situation was compatible with the concept of restrictions exposed above.

III. METHODOLOGY

To support the hypotheses formulated, secondary data from the microdata of the 2010 IBGE Census for the municipalities of Santo Antônio do

Leverger and Campo Verde were used, as data from PNAD, an acronym for national household sample survey. PNAD uses a stratified sampling method, which means the country is divided into different geographical strata and households are randomly selected within each stratum to participate in the survey. This approach ensures that the sample is representative of the entire population, considering regional, urban, and rural variations. The data is collected through face-to-face and telephone interviews conducted by trained IBGE interviewers.

Unfortunately, PNAD data for 2022 are not yet available. The release of the 2022 Continuous National Household Sample Survey (Continuous PNAD) is delayed due to difficulties in collecting data for the Population Census. The delay has been explained because of the strike of IBGE employees, the national institute that conducts the surveys, changes in the structure of the system and questionnaire of the survey; and finally, of the Covid-19 pandemic.

The use of secondary census data, such as those from the IBGE, is always a good alternative for discussing family and labor market dynamics. But how to justify the use of data from 2010? Are they still valid? We have no way of knowing. We visualized the data from 2010 as part of a twenty-four-year development dynamic, starting in 2000 and would have its sequence in 2020, but the data could not be collected because of the Covid-19 pandemic. As we said, we interviewed women heads of household in the condition of self-employment in the two municipalities studied to try to circumvent the limitations of having data from 2010 as a reference.

PNAD surveys are important because they provide data from the municipalities, to which we do not have access from any other source. Without the 2022 PNAD data, we applied structured questionnaires in person in Santo Antônio do Leverger and Campo Verde. To discuss the realities of Campo Verde and Santo Antônio do Leverger in 2024, we did a small sample of interviews with women who have children and practice self-employment in both cities. The reason for working with microdata from the PNAD is that they would allow a better understanding of the structure of the two types of families to the extent that they provide sociodemographic data and data on the type of work performed by women heads of the two types of families.

The PNAD microdata comes from a sample survey that represents 10% of the Census population. To make the inference of non-biased population statistics such as totals, mean, and proportions, which are used in this work, the data are weighted by the sample weights. (Silva; Person; Lila, 2002). The data allows representation of intra-municipal areas.

As the formulation of these weights is beyond the scope of this work, it is only worth knowing that the

estimates produced here are non-biased, given the methodology adopted by the IBGE.¹

The PNAD shows us that 668 women are heads of households and in a situation of self-employed in Campo Verde, and 122 women in Santo Antônio do Leverger. The following variables were extracted from this sample: income, race, marital status, number of people in the household, level of education, and type of

work (Table 1). In other words, we extracted from the sample variables that help us describe the socioeconomic structure of single- and two-parent families. We consider that these variables are appropriate to make a comparison between the types of families, but we recognize that other variables may prove to be important, however, theoretically, these variables are pertinent to our research design.

Table 1: Variables Used

Code	Description
v0502	Relationship with the head of the household
v0637	Has a spouse
v0601	Sex
v6036	Age
v0606	Color
v0627	If you can read
v6400	Education level
v0648	Role at work
v6461	Occupation
v6471	Activity
v6527	Monthly income
v0653	Hours worked
v6643	Total children
v6910	Occupancy condition
v5060	Number of people in the household

Source: IBGE (2019)

The microdata of the research was worked in the statistical software R. They were obtained through the open database "Database" and treated and analyzed with the tidy verse and server packages. The following criteria were used to select the data: female heads of household are all those who responded to the survey characterizing themselves as "person responsible for the household". Based on this identification, self-employed female heads of household are represented by those who are self-employed or employers, with and without CNPJ (National Registry of Legal Entities), and domestic workers without a work contract, thus complying with the conditions of self-employment, as suggested by the literature learned in the systematic review carried out on the subject by Lacerda and Souza (2020).

In the small sample of interviews (N=28) conducted between October and December 2024, 16 in Leverger and 12 in Campo Verde, it was challenging to identify the 668 women who practice self-employment in Campo Verde and the 122 who practice self-employment in Leverger.

The structured questionnaire applied is composed of three parts. The first part identified the sociodemographic profile of the interviewees. In the second part, their attitude towards entrepreneurial conduct, and finally, in the third part, questions were asked about entrepreneurial intentions.

The participants were chosen based on two criteria: (1) locations in the cities where small street vendors develop their work (fairs, street vendors...); and (2) Snowball sampling. The waitress at a café pointed out another waitress who sells clothes in her house; the clothing saleswoman indicated a woman who sells snacks, who indicated a woman who does sewing services, and so on. The questionnaire was applied at

¹ IBGE. Results – 2010 Census. IBGE: Rio de Janeiro, 2021. Available at: <<https://censo2010.ibge.gov.br/resultados.html>>. Accessed on: 30 Jul. 2021.

the interviewees' workplaces. A consent form has been submitted to have your consent. The interviews lasted an average of 25 minutes

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In Leverger, it is known that a portion of self-employed women are also fishermen, according to a survey we conducted in 2017 (LACERDA, 2024). Still, we could not identify those who practice other types of self-employments, as we would like. Of the 122 identified by the IBGE in 2010, we could interview 16.

In Campo Verde, the difficulty was even more significant. We interviewed self-employed women at the fairs, selling products in public parks and tiny street vendors on the city's main avenues. Of the 668 women who were self-employed in 2010, we were able to find 12 in 2024. It is more difficult to see them in Campo Verde than in Leverger, probably because Campo Verde is a larger city, and some of the women who practice self-employment carry out their tasks in places different

from those that a researcher looks for when they walk the streets of the city.

IV. FINDINGS

The data are organized according to the hypotheses.

H1- As the mother of the single-parent family deals with more resource constraints than the mother of the two-parent family (where there are usually two incomes), it can be said that the mothers of single-parent families tend to be less educated than the mothers of two-parent families. Table 2 shows data from 2010, and Table 3 shows data from 2024.



Table 2: Comparison of the Level of Education between Campo Verde and Leverger

	Family	Condition	Education level	%
Santo Antônio do Leverger	Mono parental	Self-Employed	Uneducated and incomplete elementary school	13,4%
			Complete elementary school and incomplete high school	21,2%
		Domestic worker	Complete elementary school and incomplete high school	8,41%
	Bi parenting	Self-Employed	Uneducated and incomplete elementary school	28%
		Domestic worker	Uneducated and incomplete elementary school	19,3%
			Complete elementary school and incomplete high school	9,71%
Campo Verde	Mono parental	Self-Employed	Uneducated and Incomplete Elementary School	7,42%
			Complete elementary school and incomplete high school	3,72%
			Complete high school and incomplete higher education	7,98%
		Domestic worker	Uneducated and incomplete elementary school	8,08%
			Complete elementary school and incomplete high school	1,24%
			Complete high school and incomplete higher education	1,75%
		Employer	Uneducated and incomplete elementary school	2,29%
			Complete high school and incomplete higher education	1,62%
			Complete higher education	1,76%
	Bi parenting	Self-Employed	Uneducated and incomplete elementary school	19,3%
			Complete elementary school and incomplete high school	5,08%
			Complete high school and incomplete higher education	1,46%
			Complete Higher Education	4,46%
		Domestic worker	Uneducated and incomplete elementary school	14%
			Complete elementary school and incomplete high school	9,24%
			Complete high school and incomplete higher education	7,98%
		Employer	Complete high school and incomplete higher education	1,9%
			Complete higher education	3,7%

Source: Micro Data IBGE/2010

Table 3: Schooling of women in self-employment of single- and two-parent families in Leverger and Campo Verde in %, with N=28.

Schooling	Campo Verde		Leverger	
	Mono	Biparental	Mono	Biparental
Primary education	8,33%	16,66%	6,25%	37,5%
Middle school	33,33%	33,33%	31,25%	37,5%
Higher education	0	8,33%	0	25%

Source: Data collected by the author (2024).

H2- It is expected that a greater level of self-employment will be found among mothers who are heads of households in Campo Verde than in Leverger. Table 3

expresses the number of self-employments categorized by the IBGE, and tables 4 and 5 present the five main types of self-employment.

Table 4: Number of Self-Employment Activities Performed by Women Heads of Household in Campo Verde and Santo Antônio do Leverger

City	Number of Activities
Campo Verde	20
Santo Antônio do Leverger	05

Source: Microdata IBGE/2010

Table 4 helps to understand the variation in the diversity of activities between Campo Verde and Leverger.

Table 5 : Main Activities Carried Out by Women Heads of Household in a Situation of Self-Employment in Campo Verde

Activity performed	%
Trade in pharmaceutical, medical, orthopedic, dental, cosmetics and perfumery products	8,8%
Hair salons and other beauty treatment activities	7,1%
Legal, accounting, and auditing activities	6,8%
Ill-defined activities	6,4%
Domestic Services	36,9%
Total	66%

Source: Micro Data Census/IBGE (2010)

Table 6: Main Activities Carried Out by Women Heads of Household in a Situation of Self-Employment in Leverger

Activity performed	%
Unspecified trading activities	26,3%
Unspecified crop	14,9%
Fishing	12,6%
Restaurants and other food and beverage service establishments	8,8%
Domestic services	37,4%
Total	100%

Source: Micro Data Census/IBGE (2010)

Table 7: Main Activities Carried out by Women Heads of Household in a Situation of Self-Employment in Leverger

Activity Performed	Percentage
Unspecified trading activities	31,25%
Fishing	31,25%
Restaurants, food and beverage services	37,5%
Total	100,00%

Source: Data collected by the author (2024).

Table 8: Main Activities Carried Out by Women Heads of Household in a Situation of Self-Employment in Campo Verde

Activity Performed	%
Hair Salons & Beauty Treatment Activities	8,33%
Domestic Services	8,33%
Restaurants, food and beverage services	25%
Trade not specified	8,33%
Unspecified crop	50%
Total	100,00%

Source: Data collected by the author (2024).

Tables 7 and 8 show a greater diversity of activities in Campo Verde than in Leverger. Almost 70% of the activities carried out by women heads of household in Leverger are concentrated in fishing and the food business, such as selling snacks.

H3- Mothers of single-parent and two-parent families tend to perform simpler self-employment in Santo Antônio do Leverger than in Campo Verde. The social

situation was compatible with the concept of restrictions exposed above. Table 9 presents the distribution in the percentage of the three main categories of the classification of types of self-employments in Campo Verde and Santo Antônio do Leverger. Table 10 shows the number of single- and two-parent families in the two municipalities.

Table 9: Percentage of Types of Self-Employments in Single and Bi-Parent Families

Types of Self-Employment	Campo Verde		Leverger	
	Mono Parental	Bi Parental	Mono Parental	Bi parenting
Own Account	49%	53,2%	80,5%	49,1%
Domestic work	33,7%	38,5%	19,5%	50,9%
Employer	17,3%	8,33%	0	0
Total	100%	100%	100%	100%

Source: Microdata Census/IBGE (2010)

Table 10: Types of Families in Campo Verde and Santo Antônio do Leverger

Family type	Campo Verde	Santo Antônio Leverger
Mono	32,8%	43,1%
Bi	67,2%	56,9%
Total	100%	100%

Source: Microdata Census/IBGE (2010)

V. DISCUSSION OF RESULTS

Hypothesis 1 argues that mothers of single-parent families tend to deal with more resource constraints than mothers of two-parent families (where there are usually two incomes). Therefore, it can be said that mothers of single-parent families tend to be less educated than mothers of two-parent families.

There are differences between Campo Verde and Santo Antônio do Leverger, but not between the types of family, as the hypothesis maintains. Data from 2010 show that in Leverger, among single-parent families, the percentage of women with no education or with incomplete primary education was around 13.4%, while in two-parent families this number reached 47.3%. Among women with complete primary education and incomplete secondary education, the percentage is 29.61% for women from single-parent families versus 9.71% for two-parent families. The data we collected in 2024 shows that 25% of female heads of households have higher education. This data can be seen as non-representative in a sample that is not representative. But it has an explanation. Most of these women with higher education were high school teachers or civil servants who live in Cuiabá but are market stallholders in Leverger on Saturday mornings.

In Campo Verde, 17,79% of women in single-parent families have no formal education or have not complete elementary school, compared to 33.3% in two-parent families. Among those with complete primary and

incomplete high school, the percentage is 4.96% for women from single-parent families against 14.32% for two-parent families. In other words, we have an inverse situation of what the hypothesis defends. Why does this happen? One hypothesis to be investigated may be related to restrictions imposed by husbands, still, as the situation contradicts the hypothesis in both Leverger and Campo Verde, it may also be related to taking care of children.

We present some points that may help to explain the inconsistency between what hypothesis 1 defends and the data found for the fact that women heads of single-parent households are more educated than those of two-parent families: (1) since 2000 the IBGE has expanded the concept of family. Concerning the two-parent family, this may have included situations that the theory did not consider when comparing family types. The IBGE now considers the consensual union, an arrangement that it did not consider before 2000. It is a family structure, today larger than religious and civil marriages in which two people live together but are not married. This may be generating in the aggregate data a composition that did not exist before under the name of two-parent families; (2) the sociology and economics of the family have shown that the schooling of women reduces their dependence on their husbands. In two-parent families, we may have resistance from husbands to their wives' investment in schooling, (3) single-parent families are fundamentally urban, unlike two-parent

families that are found proportionally in greater numbers in rural areas. Educational training opportunities are more available in urban areas, especially in small municipalities.

To the small sample we interviewed, is important to emphasize that women heads of households who live in settlements close to the city may be overrepresented. And, therefore, their profiles with low education gain prominence.

To hypothesis 2, the data show a large difference between Leverger and Campo Verde. The IBGE identified five categories of self-employment activities in Leverger, compared to 20 in Campo Verde. The presence of rural occupations with a high percentage of members, such as fishermen and farming is noteworthy.

As we mentioned earlier, in Leverger, the presence of women in the artisanal fishing business is strong. The president of the Leverger fishermen's colony, which has 450 members, is a woman.

For hypothesis 3, we do not have data for single- and two-parent families about all the activities developed, but the three typologies of the IBGE show that only in Campo Verde do we have women heads of household in the condition of the employer.

Another situation to be considered is that low-income female heads of households tend to have more than one occupation. For example, a woman interviewed gets up at 2 am to sell fish bait to sport fishermen heading to her fishing grounds. At lunchtime, she goes home and later works as a waitress in a restaurant.

Table 11: Have another occupation? % of Yes

Leverger		Campo Verde	
Single-parent	Bi parenting	Single-parent	Bi parenting
31,25%	31,25%	50%	33,33%

Source: Data collected by the author (2024).

Regarding having or not having another occupation, we found no difference in the city of Leverger, comparing single-parent and two-parent families in our 2024 sample. More than 30% of mothers have another occupation. Many women are fishermen, so their other occupations must match the fishing calendar.

In Campo Verde, 50% of mothers from single-parent families have more than one occupation. Theoretically, this is expected. Generally, women heads of single-parent households tend to have a lower income than women of two-parent families. Therefore, it looks for other economic activities to improve its situation. Some women heads of single-parent families we interviewed sell vegetables at the market and sell cosmetics and clothes at home.

The reality that emerges from the data collected in 2024 is not representative of women who practice self-employment in Santo Antônio do Leverger and Campo Verde. This research is another exploration of the 2010 PNAD data. The inconsistency of hypothesis 1 with the data from PNAD 2010 and data collected in 2024 can help us to better understand the implications of the conceptual changes that the IBGE has made and, perhaps, present situations that deserve more rigorous investigations.

VI. FINAL THOUGHTS

The increase in the number of single-parent families in Brazil has intensified a series of social problems that represent significant challenges in terms of public policies. It can be said that concern with the schooling of children and their mothers are important

indicators for thinking about improving the living conditions of these families.

The comparison between cities like Campo Verde and Santo Antônio do Leverger is relevant because it highlights the contrasts between two distinct economic realities in the state of Mato Grosso: the traditional economy, based on livestock and trade, and agribusiness. It then allows us to investigate the types of self-employments created in these two types of economies. An empirical investigation is needed to delve deeper into the reality of the two cities.

Two main findings emerge from our data. Firstly, further investigation is needed to understand why, contrary to what scholars suggest, women heads of single-parent families have higher levels of education compared to two-parent families, according to data from 2010. Does this persist? Are theoretical adjustments needed or does this have to do with the reality of the two municipalities investigated?

Can be said that, as women's participation in the labor market increases, the type of self-employment developed by female heads of families tends to vary between more or less industrialized cities. What types of self-employment opportunities have been fostered by Agribusiness? Are they primarily linked to the development of new technologies? If women heads of households who are potentially self-employed do not have the required schooling, do they tend to be left out of this environment of opportunities? Here are some questions that data analysis provides for us.

Unfortunately, independent microdata from CENSO/IBGE (2022) are unavailable. They would allow for more accurate mapping. New investigations can help us answer some of these questions.

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