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UM ESTUDO LOCACIONAL DOS ÓBITOS DE JOVENS

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ABSTRACT

This paper aimed to analyze the extermination of human capital in Brazilian states, based on the locational profile of deaths of young people between 15 and 29 years of age due to homicides, femicides, traffic accidents, and suicides, in the years 2010 and 2021. The methodological procedure consisted of discussing the data through relative values and the estimation of regional analysis indicators. The results demonstrated that deaths resulting from traffic accidents decreased but other types of deaths became more significant and localized. Deaths resulting from suicides had significant increases and homicides represented the most significant deaths, followed by femicides. The results provided a framework of information about the need for more incisive public policy operations and actions in some Brazilian states. Actions to prevent and preserve life require special attention from civil society organizations and public health authorities.

Keywords: Human geography. Human development. Social development. Violence. Regional analysis.

RESUMO

O objetivo deste texto é analisar o extermínio de capital humano nos estados brasileiros, a partir do perfil locacional dos óbitos de jovens entre 15 e 29 anos decorridos de homicídios, feminicídios, acidentes de trânsito e suicídios, nos anos de 2010 e 2021. O procedimento metodológico consistiu na discussão dos dados por meio dos valores relativos e da estimativa de indicadores de análise regional. Os resultados demonstraram que os óbitos decorrentes de acidentes de trânsito diminuíram, mas outras modalidades se tornaram mais expressivas e localizadas. Os óbitos decorrentes de suicídios tiveram aumentos significativos e os homicídios representam os óbitos mais expressivos, seguido dos feminicídios. Esses resultados forneceram um quadro de informações sobre a necessidade de operações e ações de política pública de forma mais incisiva em alguns estados da federação. Ações de prevenção e de preservação da vida demandam uma atenção especial das organizações da sociedade civil e das autoridades de saúde pública.

Palavras-chave: Geografia humana. Desenvolvimento humano. Desenvolvimento social.
Violência. Análise regional.

INTRODUCTION

The theorization of human capital as a guiding element in the process of economic development is not new. Classic studies by Schultz (1987), Becker, Murphy, and Tamura (1975), and Mincer (1981) demonstrated that economic growth does not automatically generate social and human development even if there are substantial improvements in per capita product. The promotion of social well-being and quality of life, which qualifies for socioeconomic development, is supported by investment in the population, that is, in human capital. Investing in the population means spending to improve living conditions, strengthen health, guarantee access to food and food security, and guarantee equitable access to knowledge, here translated as quality instruction and education. Furthermore, investing in human capital also implies preserving life, as educational training creates employment and income opportunities, broadens personal horizons, and provides access to better living conditions.

Moreover, several studies and historical facts have emphasized over time the role of human development in the trajectory of historical facts and the construction of contemporary society. Thus, human capital, a component of human development, cannot be dissociated as an element of social transformation (Vieira, Santos, and Carniello, 2016; Corrêa, 2023).

In this context, this paper aimed to discuss descriptively, based on regional analysis indicators, the locational profile of deaths of young people between 15 and 29 years old in Brazilian states resulting from homicides, femicides, traffic accidents, and suicides. The classification of young people follows the idea of a phase of life in which human beings, regardless of their gender, have more refined cognitive conditions, become age-appropriate to enter the job market, continue their professional training, and launch their careers at a time of greater physical vitality. According to Cassab (2011), youth is a stage of life in which discipline, instruction, family, and school education come together for biological and social maturity. In any case, part of the classification of what is considered young is linked to the conformation of society, to a symbolic representation, and youth becomes a socially constructed category.

Beyond the historical line, young people will always be an agent of the present and a pillar of the future. This age group is characterized as one of the most promising periods in terms of training, skill development, and qualification of human capital given the productive and reproductive characteristics and learning capacity of the population. Consequently, the loss of young lives imposes difficulties in replacing



the population in the long term, not to mention the difficulties in expanding creative capacity and reducing the potential for expanding productivity in the economy with the workforce loss. Demographic trends in Brazil reinforce this finding. According to Oliveira (2019), the aging rate of the Brazilian population almost quadrupled between 1970 and 2010, while the participation of children in the total population reduced. In the 1970s, there were 12.2 elderly individuals aged over 60 for every 100 children, and this ratio reached 44.8 elderly people in 2010.

Subsequently, the literature review presents some concepts related to the importance of young people in the development process, especially their concept of human capital. Next, the methodological procedures present the data and their sources, periods, and indicators used in the analysis. The results and discussion and final considerations sections summarize this paper.

LITERATURE REVIEW

At the beginning of the 20th century, with pioneering studies on the location of productive activities, the variable “place of residence of the workforce” was introduced as an element to be considered when making investment decisions by firms. However, studies explicitly related to human capital also stimulated a shift in the conception of the study of economic development, which until the 1950s was closely related to the existence of infrastructure and natural resources. The need to advance the productive structure through innovations and competitive advantages required people with more skills, who were creative and productive. According to Kwon (2008) and Sen (2007), the population needed adequate living conditions combined with strengthening freedom and replacing the workforce to become more creative and innovative. Now, if development is associated with the well-being of society, then the process of socioeconomic development should also be capable of ensuring freedom of access to knowledge and expanding opportunities and choices in health, education, and income.

Lucas (1988), Romer (1989), and Mankiw, Romer, and Weil (1992) emphasized the importance of young people in an economic sense, in which youth associated with education and knowledge generate human capital. The authors pointed to human capital as a key production factor in the process of economic growth and development. This implies that young people’s ability to produce is a competitive differentiator, as their skills and creativity are a development strategy, which involves the accumulation of



physical but also human capital. The consequence, in addition to human development, is the expansion of the technological base and the dynamism of the economy.

In this line of the importance of young people, Coll (2001) pointed out three obstacles to socioeconomic development when the expansion of human capital is lost or restricted, both in qualitative and quantitative aspects, namely: 1) cultural, in which the absence of feeling of belonging leads to a lack of interest in social culture and hinders human development; 2) demographic, which can be stimulated by birth rates but also discouraged by high death rates. In a place where there is higher deprivation of resources, mortality combined with low birth rates do not replace human capital and discourage the attraction of population; 3) economic, in which income and productivity are strengthened cumulatively. The higher the productivity, the higher the competitiveness and the earned income. To achieve this, the workforce must be prepared not only for manufacturing and commercial activities but also for training and qualifications, which demands higher cognitive conditions and education over time. Therefore, the younger and more inserted into the productive structure the economically active population is, the higher the possibilities for increasing creativity, income, and production.

In a study applied to Brazil, Nakabashi and Figueiredo (2008) realized that increases in the average education level of young people would have a direct impact on income, that is, an additional year of schooling can increase future income by up to 30%. It would also imply a family gain, as in Brazil the income of young people also combines with the income of their parents and grandparents in the family home.

In addition to the obstacles highlighted by Coll (2001), Hirschman (1995), Putnam (1996), Rodrigues (2018), Joyal (2019), Joyal and Bessa (2012), Bonemberger *et al.* (2019), and Dallabrida *et al.* (2019) drew attention to the political obstacle. In other words, encouraging and protecting young people is a choice made by society, which is reflected in its representatives. Thus, political elements both in the representative sphere and in the collective action of organizations are essential to advance the conditions of human development and strengthen ties of belonging, activating what they call social capital and territorial assets. Creating reasons to live and have affection in their place of life helps them protect themselves from impulsiveness and self-destruction, which means



protecting their own existence and the future of the territory. Shikida and Oliveira (2012) pointed out this trend when relating socioeconomic development and violent crime. More developed regions tended to have less violent crime.

Another obstacle that must be highlighted for the protection and investments in young people is the moral conditions of each society. Women's access to training and qualifications is restricted by religious, normative, and racial issues in some cultures. It creates a barrier to the full development of the potential of girls and young women in their most productive cycle and an accumulation of low qualifications in specific strata of the population. In this context, Raiher (2016) pointed out that there is a concentration of female poverty in the North and Northeast regions of Brazil, affecting black, brown, and indigenous women more effectively. Among the factors that increase the chances of a household headed by a woman being below the poverty line, the author detected informality, single-parent status, and family size. However, the higher the level of education, the greater the inclusion at a young age group, the greater the proximity to the urban area and being white, and the possibilities for women to reach higher levels of income and living conditions increased. Consequently, exposure to violence and risks to life also decreased. Once again, education and age profile appear among other aspects. In addition, there is a clear need for public policies for social inclusion and combating all types of prejudice and discrimination.

The qualification and training of the young workforce, regardless of their race, color, or gender, attract productive investments. Raiher (2012) and Alves and Marques da Costa (2018) studied the determinants of industrial location by technological level and realized that human capital has a positive effect on the attractiveness of more capital-intensive companies and technological levels. Raiher (2012) used panel data and demonstrated that the higher the technological level of the industry, the greater the demand for human capital, which motivates investment in qualified young people in certain regions. The higher the investments in human capital, the greater the economic attractiveness of the agglomeration for the provision of jobs and income. Corrêa, Bidarra, and Piffer (2019) had the same perception as Raiher (2012) when studying the municipalities in the state of Mato Grosso do Sul.

Rolnik (1999) studied two large urban agglomerations comparatively and observed that territorial exclusion is related to income concentration. Social capital and inclusive public policies



related to the demands of communities are required to minimize the effects of territorial exclusion and the social problems it generates. In this sense, Mill (1986) emphasized that the best thermometer of the quality of human capital in the 19th century was its ability to cooperate, associate, and solve common problems, forming what is currently called social capital. The ability of young people to work collectively for the benefit of their communities helps to overcome social exclusion.

Acemoglu, Gallego, and Robinson (2014) observed the role of young people in society and realized they are more than just a workforce in the environment of socioeconomic development. The human capital that young people represent is an institution, as their cognitive evolution and social movements can change the rules and morals of society in addition to contributing to productivity and creativity.

In other words, on the one hand, the young population is consumers and workers, on the other hand, they are also makers of collective and political decisions, whose ability to think and produce is essential for productive and social evolution. In this context, the importance of young people in the context of production and promotion of socioeconomic development encompasses everything from productive to cultural and territorial elements. Productive, as already mentioned, is the idea of young people as a workforce capable of higher training, qualification, dexterity, and productivity, but also for entrepreneurship. Cultural is the feeling of belonging of young people, who identify with the places in which they reside and dedicate themselves to it, whether individually or collectively. The territorial, very close to the cultural, is linked to the occupation of the territory and its strengthening whether by strengthening emotional ties, which encourages belonging, or strengthening social capital, which encourages associativism and cooperation in favor of their place of residence.

Therefore, preserving the lives of young people, qualifying them, training them, and promoting public policies for their full development are instruments to reduce poverty, exposure to violence, strengthen the location of industrial activities, and promote social well-being. Consequently, the destruction of working-age lives causes a generational problem of loss of creativity, loss of development potential, and family disruption. It leads to the need to monitor and understand the magnitude of young deaths in Brazil.



METHODOLOGICAL PROCEDURES

Data on deaths among young people aged 15 to 29 were collected to meet the objective of this study, being classified as female death in traffic accidents, male death in traffic accidents, femicides, homicides, female suicides, and male suicides. Despite a broad discussion about gender, race, and living conditions, precarious work that combines with death rates, crime, and other Brazilian social problems, this analysis only focused on the male and female categories and their violent deaths. It limits but does not invalidate the analysis, as it is a gap that can be filled by broader and more robust research in the academic environment, given the limitations imposed by technical regulations on textual extension in journals. In other words, the analysis contributes but does not exhaust the broad discussion that the topic demands.

Data were collected from Ipeadata (2023). The period of analysis was the years 2010 and 2021. The periods were chosen based on the availability of information. Furthermore, this period marked two moments in the Brazilian socioeconomic situation: 2010, the year in which the Brazilian economy grew the most and unemployment reached the lowest levels at the beginning of the millennium; and 2021, the year in which the unemployment rate increased due to a slow recovery of the Brazilian economy since the 2016–2017 economic crisis, but also due to the restrictions and mortality generated by the Covid-19 pandemic. In 2021, the Brazilian economy had already recovered its pre-pandemic growth levels.

In addition to presenting nominal values, the data were compared based on their relative values through percentage shares and estimation of regional analysis indicators. The indicators used followed the parameters based on texts by Pumain and Saint Julien (1997), Alves (2022a; 2022b), Alves (2012), and Souza and Alves (2011). The estimated indicators were:

$$CLi = \sum_j |(V_{ij} / \sum_j V_{ij}) - (\sum_i V_{ij} / \sum_i \sum_j V_{ij})| \div 2 \quad (1)$$

in which CLi is the location coefficient, and V_{ij} is the number of deaths by type of modality i in federated state j .

The locational concentration expressed in CLi relates the percentage distribution of the number of deaths of a given profile between the states with the percentage distribution of the



number of deaths in the state as a whole. In other words, its indicator varies in an interval $\geq 0 \leq 1$. The type of death i for values equal to zero (0) will be distributed regionally as the set of all deaths under analysis. If the value is equal to unity (1), death i presents a more intense regional concentration pattern than the set of all other analyzed deaths. The analysis takes the interval between zero and one as a standard, as homogeneity at the extremes of the indicator would characterize the same number of deaths in each state over time.

Deaths in their different modalities are represented as V in the equation. Therefore, V_{ij} is the death of type i in state j . V_{ij} was used in two different periods to relate the percentage distribution of V and capture the pattern of redistribution or displacement of types of deaths over time, estimating a coefficient of displacement or redistribution, in this case $CRdist$, being:

$$CRdist = \sum_j \left[\left| \frac{V_{ij}^{A0}}{\sum_j V_{ij}} - \frac{V_{ij}^{A1}}{\sum_j V_{ij}} \right| \right] \div 2 \quad (2)$$

where A0 is the initial analysis period (year 2010), and A1 the final analysis period (year 2021), and V_{ij} is the death in modality i in state j . In this case, $CRdist$ varies within the range of 0 to 1, in which the higher proximity to unit (1) reflects a more significant displacement or distribution of deaths between states.

As already mentioned at the beginning of this section, the main limitation of the analysis was that the choice of the variable did not consider criteria of color, gender, creed, race, education, or more specific ranges of age and education. However, the results already allow us to paint a picture of the situation of loss of human beings in such a tender and promising period of the life cycle, in addition to pointing out elements for future, more detailed research.

RESULTS AND DISCUSSION

Table 1 shows nominal data on deaths of young people aged 15 to 29 resulting from traffic accidents by sex, regardless of the cause of the accident. In general, 49.36% of all male deaths in Piauí in 2010 resulted from traffic accidents, reaching 47.54% in Santa Catarina, 37.66% in Tocantins, and 37.63% in São Paulo.



Table 1 | Brazil: deaths of young people aged 15 to 29 in traffic accidents – 2010 and 2021.

State	Female traffic accidents		Male traffic accidents	
	2010	2021	2010	2021
Acre	11	8	40	28
Alagoas	32	18	229	193
Amazonas	40	35	122	131
Amapá	6	7	37	16
Bahia	138	76	735	569
Ceará	115	77	701	469
Distrito Federal	28	12	125	46
Espírito Santo	56	33	327	161
Goiás	112	64	553	373
Maranhão	84	63	435	423
Minas Gerais	232	148	1.207	706
Mato Grosso do Sul	58	27	250	151
Mato Grosso	59	50	328	271
Pará	87	91	504	412
Paraíba	40	22	281	207
Pernambuco	102	50	611	390
Piauí	48	32	309	203
Paraná	209	142	994	643
Rio de Janeiro	145	87	739	468
Rio Grande do Norte	37	12	192	108
Rondônia	34	21	171	121
Roraima	10	8	42	38
Rio Grande do Sul	131	75	618	374
Santa Catarina	124	78	560	361
Sergipe	34	14	189	119
São Paulo	389	217	2.198	1.361
Tocantins	32	28	145	135

Source: Research results based on data systematized by Ipeadata (2023).

The data in Table 1 compared to the data in Table 2 demonstrate that traffic accidents rivaled homicides in terms of the depletion of young men. In 2021, the significant number of deaths between types continued but there was a significant reduction in the participation of traffic accidents. In this case, the state of Santa Catarina continued to have significant numbers of male traffic accidents,



with 40.16%; followed by the state of São Paulo, with 40.57%, representing an increase compared to 2021; and the state of Tocantins, with 31.54%. The state of Piauí showed a reduction in the share of male deaths resulting from traffic accidents by more than 40%, reaching 2021 with a total share of 29.12%.

Sousa *et al.* (2020) analyzed mortality from traffic accidents in Piauí between 2000 and 2017 and demonstrated that the Piauí case was related to young adults, motorcyclists, and vehicle occupants, whose risk was much higher than other victims, elderly or in middle age. The reasons that led to so many deaths of young drivers and passengers were related to excessive consumption of alcoholic beverages, psychological and behavioral problems, and traffic disputes, among others.

Piauí improved the number of deaths in traffic accidents in 2021, but the leadership moved to the Southeast region, as São Paulo led the number of deaths of young people resulting from traffic accidents, with 16.06% of the national total. It is practically double that of Minas Gerais, which had 8.33%, and Paraná, with 7.59%, in the period. The percentage in São Paulo reduced, as this value had been 17.39% in 2010, and Minas Gerais reached 9.55%, followed by Paraná, with 7.86%.

On the one hand, traffic accidents with male victims were more significant, on the other hand, those with female victims were considerably reduced. The reduction in female deaths in traffic accidents between 2010 and 2021 was more than 50% in Mato Grosso do Sul, Distrito Federal, Pernambuco, Rio Grande do Norte, and Sergipe. The only increase was observed in Pará, with 4.5%. Even with the reduction in male deaths resulting from traffic accidents, the amount is still very significant compared to female deaths. In female and male cases and Brazilian states, the elements highlighted by Sousa *et al.* (2020) regarding behavior, impulsivity, cultural issues, and abuse of dangerous substances among the youngest segments of the population are also valid to explain the loss of life.

Table 2 shows data on the spatial distribution of the depletion of human capital through the deaths of young people aged 15 to 29 as a result of homicides, femicides, and suicides.

Table 2 | Brazil: deaths of young people aged 15 to 29 in femicides, homicides, and suicides – 2010 and 2021.

State	Femicide		Homicide		Female suicide		Male suicide	
	2010	2021	2010	2021	2010	2021	2010	2021
Acre	7	10	67	84	3	6	14	25
Alagoas	64	24	1223	604	9	10	27	41
Amazonas	32	60	602	987	18	37	71	120
Amapá	4	8	164	305	4	11	11	25
Bahia	213	197	3338	4045	29	46	102	166
Ceará	62	169	1432	1779	33	46	143	171
Distrito Federal	32	8	420	160	9	20	37	51
Espírito Santo	79	30	957	535	10	19	27	50
Goiás	85	48	1001	857	21	43	78	145
Maranhão	52	47	784	895	18	32	71	100
Minas Gerais	183	74	1762	1048	49	118	257	330
Mato Grosso do Sul	25	15	267	193	19	28	59	89
Mato Grosso	27	25	434	348	9	16	35	68
Pará	115	87	1816	1362	17	36	59	126
Paraíba	52	32	778	516	3	13	34	49
Pernambuco	116	107	1838	1638	24	44	77	117
Piauí	11	28	183	340	21	19	54	75
Paraná	165	81	1803	1044	40	82	137	241
Rio de Janeiro	130	93	2818	2518	38	75	68	148
Rio Grande do Norte	31	28	407	572	5	7	24	51
Rondônia	10	16	213	189	6	17	23	49
Roraima	7	11	45	105	6	13	13	23
Rio Grande do Sul	92	68	891	703	32	62	180	213
Santa Catarina	42	25	337	265	25	32	90	138
Sergipe	19	14	328	420	12	10	34	31
São Paulo	281	86	2378	1001	107	151	488	539
Tocantins	18	12	158	199	8	16	24	38

Source: Research results based on data systematized by Ipeadata (2023).

The data in Table 2 showed that homicides of young males in both 2010 and 2021 had a significant and alarming participation relative to the set of deaths between and within Brazilian states. Significant because, as a whole, it is the most representative among the types of deaths analyzed in this study, well ahead of deaths resulting from traffic accidents. Alarming because it differs in magnitude and expressiveness in all Brazilian states.

Suicides of young women and men increased in all Brazilian states despite the low nominal value relative to other types of deaths. These increases were more than 100% in some states. In a



study on temporal trends in suicide in Brazil, Ribeiro *et al.* (2018) pointed out that self-annihilation is related to the subject's universe, particularly because they have difficulties communicating, expressing themselves, and perceiving themselves as unrecognized. The impulsiveness of the act attempts to attract society's attention and express some type of request for help. In other words, the expansion of suicides demands the attention of constituted authorities and public policy actions to minimize their incidence, especially among adolescents. Here it is worth reflecting on the use of vehicles for suicide, given that impulsivity and the need for self-affirmation in a more competitive society can also lead young people to use traffic accidents as a form of self-destruction.

Treating the data in Table 2 regarding the percentage distribution of deaths of young people aged 15 to 29 by states in the different modalities, the state of Alagoas presented 77.21% of its total deaths related to homicides in 2010. In this same modality and period, Bahia presented 73.28%, Amapá 72.57%, Rio de Janeiro 71.52, and Amazonas 68.02%. In the Southeast region, only Espírito Santo was above 50%, with a rate of 65.73%. The other states, with rates above 50%, are in the North or Northeast of Brazil. The lowest rates were in Santa Catarina and Piauí, with 28.61% and 29.23%, respectively. In other words, during this period, the North and Northeast regions were the most lethal for young men.

In 2021, the situation showed a slight change, as Amapá reached 81.99%, which corresponded to a tragic increase of 12.98%. In terms of violent deaths, homicides of young people were the most prevalent in Amapá, followed by Bahia, with 79.33%, Rio de Janeiro, with 74.30%, and Rio Grande do Norte, with 73.52%. Rio Grande do Norte increased from a percentage of homicide among violent deaths of 58.48% to 73.52% in 2021, an increase of 25.71%. During this period, the lowest rates were in Santa Catarina and São Paulo, with 29.48% and 29.84%, respectively. Piauí, which had one of the lowest rates in 2010, ended 2021 with a percentage of 48.78%, an increase in participation of 66.88%. São Paulo reduced the share of homicides among young people aged 15 to 29 by -25.58%.

In the case of the percentage distribution of homicide deaths among young people aged 15 to 29 between the states, Bahia and Rio de Janeiro stood out in 2010 with participation above 10%, with values of 12.62% and 10.66%. Closer to these values was São Paulo, with a national share



of 8.99%. However, just as Bahia stood out in intra-state participation in youth homicides in 2021, the state managed to advance in participation between states, with a rate of 17.81%, a variation of 41.12%. In second place was Rio de Janeiro, with 11.09%, which represented an increase of 4.03%. São Paulo, which was in third place in 2010, reduced its share to 4.41% and Ceará was in third place, with 7.83%. This repositioning of Ceará represented an increase of 42.88%.

The variation in deaths of young people between and within states already pointed to some trends, which were reinforced by the results of the coefficients of location (CLoc) and redistribution (CRdist) shown in Table 3.

Table 3 | Brazil: Coefficients of redistribution (CRdist) and location (CLi) by type of death of young people aged 15 to 29 – 2010 and 2021.

Type of death	CRdist 2010/2021	Indicator / Period CLi	
		2010	2021
Young female traffic accident	0.05	0.15	0.21
Young male traffic accident	0.04	0.13	0.18
Young female femicide	0.16	0.08	0.10
Young male homicides	0.12	0.09	0.11
Young female suicides	0.06	0.18	0.22
Young male suicides	0.05	0.23	0.22

Source: Research results based on data systematized by Ipeadata (2023).

The results of the regional analysis indicators pointed out and reinforced the increase in the concentration of deaths of young males. In other words, male deaths continue to occur at a higher magnitude but are more localized. The North and Northeast regions remain significant as a whole but the highest incidence occurs in more specific states. For instance, the locational profile of femicides in 2010 was more dispersed in Brazil, but a group of states ceased to be significant in 2021, and other states maintained their position and reinforced it, namely: in the North region, the states of Acre, Roraima, Amazonas, Pará, and Rondônia presented the highest number of deaths among young women due to femicides. In the Northeast, the states of Ceará, Bahia, Pernambuco, Piauí, and Paraíba. In the South region, only Rio Grande do Sul. Femicides against young people are



the most distributed throughout Brazil and the North and Northeast regions are the areas at highest risk for young women aged 15 to 29. In other words, the highest redistribution of deaths among young people was femicides and homicides.

A comparison between the locational profile of femicides and the study by Raiher (2016) shows that young, poor, black women heads of families are the most affected by violent loss of life. Roichman (2020) drew attention to the fact that the law that typified femicide in Brazil, from 2015, helped to establish the real dimension of crimes against women's lives. This violence increased in subsequent years even with the classification of crimes against women.

Finally, public policies to minimize the incidence of violent deaths against young people should not necessarily be led by the federal government. States and municipalities, within the scope of their responsibilities, can and should also promote actions to preserve lives. Joyal and Bessa (2012), Joyal (2019) and Dallabrida *et al.* (2019) drew attention to grassroots actions, that is, actions conducted locally in the territory by organized civil society, which serve to restore the feeling of belonging and strengthen social capital and emotional ties within communities. Consequently, it creates development alternatives that maintain the fullness of life.

FINAL CONSIDERATIONS

This paper aimed to analyze the locational profile of deaths of young people aged between 15 and 29 in Brazilian states resulting from homicides, femicides, traffic accidents, and suicides in the years 2010 and 2021.

The methodological procedure consisted of the analysis of statistical data on the deaths and the estimation of regional analysis indicators, particularly location and specialization to process the information and obtain elements for discussion.

The analysis was limited by the profile of the variables, which did not consider criteria of color, creed, race, education, or more specific age ranges. Despite the limitations, the study allowed the inference of the situation of loss of human beings in such a tender and promising period of the life cycle. The results enabled us to point out, among other state weaknesses, the specificity of the North and Northeast regions in preserving the lives of young people and, consequently, human capital.



The loss of life due to traffic accidents decreased, but other types of deaths became more significant and localized. In this aspect, this study provided a framework of information on the need for more incisive public policy operations and actions in some Brazilian states. Guidance actions, changes in legislation, education for life, and inspection, as has occurred in Brazilian traffic in recent years, seem to have had an effect in the face of the drop in mortality resulting from the use of motor vehicles. Similar actions can be replicated for other types of deaths, as the considerable increase in suicides demands special attention from public health authorities although homicides are still very significant among the causes of destruction of young human capital.

Considering that there are thousands of young people of productive and reproductive age practically depleted and destroyed by violence and traffic, Brazil is clearly losing, even more, its demographic bonus, which has been already dropping due to the population's low birth and fertility rates in recent years. Furthermore, the demographic transition and the loss of lives, which could be preserved through the actions of civil society organizations and appropriate public policies, impose restrictions on Brazilian socioeconomic growth and development in the long term.

Greater detailing of the variables is suggested, with the inclusion of elements of race, age profile, occupation, and regionalized data in immediate and intermediate regions or municipalities for a more specific picture of the situation of the depletion of young human capital in Brazil.

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