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ORIGINAL

INFLUENCE OF BRAZIL'S PUBLIC HEALTH POLICIES ON PHYSICAL ACTIVITY PROMOTION IN URBAN AREAS

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ABSTRACT

The research aims to determine the influence of Brazil's public health policies on promoting physical activity in urban areas. An overview of the impact of Brazilian public health initiatives on encouraging physical exercise in metropolitan areas is given in the study. Brazil has put in place a wide range of regulations to combat non-communicable disease and promote healthy living. The cornerstone of the approach is the National Health Promotion Policy, which highlights the incorporation of physical exercise into everyday activities. Research used smart PLS software to measure the research and generated informative results, including descriptive statistics, correlation coefficient, and smart PLS Algorithm model. The goal of infrastructure development, urban planning, and educational initiatives is to provide settings that support active living. Campaigns for health promotion and community involvement support these initiatives by raising awareness and encouraging behavioral change. These policies will only be successful if they are implemented well, are continuously assessed, and are flexible. Overall result found the positive and significant influence of Brazil's public health policies on physical activity promotion in the urban areas. Brazil's dedication to encouraging physical exercise indicates the global recognition of the significance of preventative health measures. Sustained endeavors towards this end might foster a more robust and engaged urban populace in Brazil.

KEYWORDS: Brazil's (B), Public Health Policies (PHP), Physical Activity Promotion (PAP), Urban Areas (UA)

1. INTRODUCTION

The world has entered into an era of time where the whole earth has been converted into a global village by the advancement and achievement of science and technology. We cannot deny that there are a variety of benefits of science and technology in each facet of life ranging from individual level to social level, but by use of this technology, some negative impacts have been observed. The first and foremost aspect is that the extensive use of technology has resulted in less social interaction with one another because of provides more time to screens and less time to fellow human beings. The whole world has been facing this problem for many years. Few countries have taken effective steps to move people away from the extensive use of technology to promote and encourage social interaction (Monteiro et al., 2003). The other negative impact of technology is that there is diminished or reduced physical activity in masses of the population. Brazil stepped forward in this regard and formulated a few important public health policies to encourage and promote physical activity in Brazil's urban areas. As we know, there are more opportunities for physical activity in rural Brazil, but there is very little opportunity for physical activity in urban areas. In this study, we are going to overview the public health policies of Brazil that encourage people's physical activity. One of these public health policies is providing public spaces such as public parks, public gyms, and other places where people can gather for activity(Rodríguez-González, physical Cecchini, Méndez-Giménez, & Sánchez-Martínez, 2021; Sallis et al., 2009).

Urbanization has been increasing in the past few years which resulted in less space available for physical activities of Brazilians but this policy of providing more public space to people automatically resulted in increased physical activities of people of Brazil. The other public policy of Brazil to promote physical activity is the policy of providing free transport to the masses to public places, which makes it easy for people to go to public spaces for physical activity. All these policies resulted in more engagement of Brazilians in urban areas towards physical activity(Ceschini, Andrade, Oliveira, Araújo Júnior, & Matsudo, 2009). Promotion of physical activity in urban areas is critical for improving public health. Urban areas often have a high popularity of inactive lifestyles due to factors such as lack of green spaces, limited access to safe and affordable physical activity facilities, and increased confidence in motorized transportation. This can lead to an increased risk of chronic diseases such as obesity, diabetes, and cardiovascular diseases. Physical activity in urban areas can help reduce these risks and improve overall health.

This can be achieved through initiatives such as building and maintaining safe and accessible parks and recreational facilities, promoting active transportation options such as walking and cycling, and implementing workplace wellness programs. Promoting physical activity in urban areas is an important public health strategy that can significantly impact the health and wellbeing of individuals and communities.

Different programs are aimed to increase the encouragement for physical activities, such as a program named Academia da Sauda, which is mainly aimed to establish such points where outdoor physical exercise is possible for masses of the population of Brazil in urban areas. These programs also provide free classes for understanding the importance of physical education and the balanced health of Brazilians in urban areas(Santos, Hino, & Höfelmann, 2019). There is also another program, Caminho da Escola, which is aimed at using cycles for short-distance travel, such as going to school or the office. This program is also aimed at promoting the activity of walking among Brazilians because daily walking can solve half of the problems related to health. In rural areas, people have more social interaction with others which also promotes involvement in physical activities but in urban areas, such programs are mandatory to promote physical activity in Brazil's urban areas(Longo, Aquilino, Cardey, Lentini, & Prada, 2021; Parra et al., 2011).

The other public policies include seminars, educational awareness, and other such activities to spread awareness about the importance of physical activity for maintaining the health of human beings. If we talk about the influence of these public policies, we come to know that there are many benefits of such policies. The first benefit is that these policies helped more people get away from their mobile phones and encouraged them to spend time with fellow beings. These policies raised awareness about the importance of physical activity for health. These policies helped Brazilians engage in physical activities and also brought them socially close and interconnected. These policies increased the social capital of people in urban areas, which eliminated the factor of loneliness among people(Hino, Reis, Sarmiento, Parra, & Brownson, 2011).

It is evident from medical science that physical activities also help to make mental health better, so these policies also resulted in better mental health for the majority of the population in urban areas. Before adopting these policies, it was seen that almost every fourth person in urban areas was suffering from any kind of mental health disorder, even without showing any major kind of symptoms(Sallis et al., 2016). It came to be known by conducting different research and questionnaires. After analyzing these poor mental and physical health conditions, it was concluded in Brazil that such policies should be formulated, which may help promote physical activity and better physical health conditions (Burrichter, Chen, & Marco, 2022).

The hormonal balance and mental health condition are closely related. After following these policies, it has also been seen that there was a positive impact on Brazilians' physical and mental health. The other impact of these policies is that they brought people together and reduced the anxiety and depression levels in Brazilians(Mendonça et al., 2010). After adopting such public policies by the masses of the population of Brazil, there was a positive change in their lifestyles of. People were more engaged in physical activities. There were fewer physical and mental health issues. At the same time, the people showed more courteous behavior with others. It is explained by evolution that humans are social animals, which means that humans need society for mental peace and community-based cooperation. The Brazilian government's public policies also effectively fulfil this basic need of human beings (Ceazón, Peter, & Cindy, 2021).

Now, in the present time, we can see that there are more people of varying ages in public places in urban areas in Brazil. The overall depression level has also been reduced which s(Hoehner et al., 2008)how's that if we make physical health better, mental health will also become better. Engagement in physical activity produces endorphins in the body, which act as happy hormones and improve mental health. After an overview of the positive impacts of public policies related to the promotion of physical activity in Brazil, we can easily conclude that such steps should be taken by other countries also because it can make their people happy by providing opportunities to improve their physical and mental health. It will be an effective step towards the betterment of humanity all over the world(Heath et al., 2012).

2. Research objective

The main objective of this study is to understand the relationship of public policies in Brazil to the promotion of physical activity in urban areas. This study has effectively enumerated that all those policies have proved to be productive for engaging Brazilians in physical activities in urban areas.

The research determines the Influence of Brazil's Public health policies on physical activity promotion in urban areas. The research is divided into five specific chapters. The first section represents an introduction related to public health policies and physical activity promotions. The first section describes the objective of the research, the second chapter describes the literature review the third portion describes methods of research also, tools, and techniques related to the independent and dependent variables. The fourth section describe that result and its description also that last section represents and summarized overall research and present some recommendations about topic.

3. Literature Review

Researchers claim that people are influenced to indulge in PA because of PA-related policies. the implementation of physical activity policies in Brazil has influenced a large number of pollution involved in PA.to assess the benefits of PA to the general public the use of PAQs is made. The PAQ is a questionnaire program that asks people about their health condition after adding PA-related exercises to their daily lives. The data obtained from the PAQ helps predict the extent to which PA benefits people's health (Ács et al., 2020).Studies explain that most schools allow students to play in the school backyard. The green school grounds influence the students to do physical exercise-based activities. These activities improve their physical health and also enhance their emotional behavior. Improving students' physical health improves their mental health (Bikomeye, Balza, & Beyer, 2021).Studies explain that PA should be promoted at an early age to enhance a person's strength when he ages.In schools, implementing PE-related programs helps fulfill the task of providing PA at an early age. The game-based PE programs are used in elementary schools to promote PA-related exercises in children(Cocca, Espino Verdugo, Ródenas Cuenca, & Cocca, 2020).Studies show that the trend of consuming UPF has increased among Brazilian people.

The excessive consumption of UPF results in hypertension. The health policies in Brazil explain that high UPF increases the chances of high blood pressure.by preventing the overconsumption of UPF, people of Brazil can be prevented from serious health complications(da Silva Scaranni et al., 2021).studies suggest that due to a lack of physical activity, a lot of people become obese.to manage the weight-associated problems of people in PHC the use of TTM is made. TTM provides effective strategies for managing the weight-related problems of people facing obesity condition. moreover, in Brazilian PHC, people are provided with PA-related programs and nutrition education (de Freitas et al., 2020).studies explain that the movement guidelines policies are implemented in middle and low-income states of Brazil. According to the movement guidelines.

Brazilian people are provided with movement exercises that maintain their health (de Lucena Martins et al., 2021).scholar highlights that the main aim of public health policies is to provide knowledge to the general public about the importance of PA in their daily life. public health campaigns serve the purpose of making people aware of the need for exercise. Information technology is used in public health campaigns to provide PE-related knowledge to people. By combining health campaigns with IT, more reliable information regarding PE is provided to people on a broad scale(de Morais Pinto et al., 2021).Studies suggest that in Brazil, FHS is used to provide people with healthrelated information.

The FHS is a health-related policy that is used in Primary care settings. communication technology is used in FHS programs to make them more effective for monitoring AH patients Students claim that patients getting treatment for AH in an FHS setting show positive responses toward using mhealth apps(Debon et al., 2020).Studies suggest that certain socio-economic factors influence people's eating habits, resulting in poor health.in Brazilian

states, the trend of unhealthy food consumption is higher among adolescents.

This unhealthy consumption of food disturbs the behaviour of adolescents and develops health-related issues in them(Haddad & Sarti, 2020). Studies highlight that to promote health-related activities in urban areas, city planning policies are common. the city planning policies provide people in urban areas with opportunities to improve their lifestyle by adopting PA. The sustainability of cities is promoted by the implementation of city planning policies(Lowe et al., 2022).studies elaborate that a lot of adolescents are engaged in PA in their leisure time, but this PA activity does not improve their health.

The social-ecological model suggests that by providing PE to students, they can better indulge in PA, which improves their physical health(Martínez-Andrés et al., 2020).studies determine that besides indulging in PA, it is very important for the youth to opt for healthy eating habits. The adults opting for the Mediterranean diet are physically healthy.by making youth adopt healthy eating habits and by reducing the use of alcohol substances among youth their physical health can be improved(Moral-García, Agraso-López, Ramos-Morcillo, Jiménez, & Jiménez-Eguizábal, 2020).Scholarly studies explain that community-based programs are developed to promote health-related exercise activities in urban areas.

Community-based programs help deal with the health-related problems faced by people in urban areas(Nickel & von dem Knesebeck, 2020).Scholars predict that CVDs are the type of NCD that results from bad health conditions.in Brazil, the consumption of sodium is high among the youth which increases the risk of high blood pressure in Brazil.by consuming the right level of sodium recommended by WHO the chances of cardiovascular diseases decrease (Nilson, Metlzer, Labonté, & Jaime, 2020). Studies claim to stop the spread of obese associated diseases; various prevention programs have been developed.

Pap is a program that is used for managing the health-related problems due to obesity(Pérez - Escamilla et al., 2021). Scholars suggest that following the recommended PA level reduces the chances of cardiovascular disease development. a lot of children has faced health related problems during the covid 19pandemic. To address these health problems in children, various health policies were developed during the pandemic(Rahman A & Chandrasekaran, 2021).also, the health problems faced by people during the COVID-19 period were overcome by indulging people in home based PA. for dealing with chronic infectious disease PA acts as a great intervention tool(Sallis, Adlakha, Oyeyemi, & Salvo, 2020).

Moreover, for promoting the physical activity relate policies and programs internationally the guidelines of SDGs are foolowed.by promoting the

PA in public, a country can achieve sustainable development goals(Salvo et al., 2021). Studies explain that adolescents' behavioral activities depend on their health status .the bad eating habits develop sedentary behavior in adolescents that disturbs their physical health. engaging the youth of the present world in PA reduces the risk of bad behavior activity development in adolescents(van Sluijs et al., 2021). Studies highlight that different demographic factors affect different PA domains. By understanding this demographic factor, it becomes easier to promote health-based policies in different countries around the globe(Werneck et al., 2020).

3.1 Methods

The research study describes the influence of Brazil's public health policies on the promotion of physical activity in urban areas. The research was based on primary data analysis to determine whether it used smart PLS software and generated informative results, including descriptive statistics, correlation coefficients, and the smart PLS Algorithm model between them. In order to address the rising concerns around non-communicable diseases (NCDs) and encourage a better lifestyle, including more physical exercise, Brazil has established a number of public health measures. The following are some important variables and laws affecting the promotion of physical exercise in cities:

3.1.1 National Health Promotion Policy (PNPS)

Brazil's National Health Promotion Policy (PNPS) seeks to promote physical exercise and other healthy habits. The significance of developing community-based settings that encourage physical exercise is emphasized by this strategy.

3.1.2 Health Promotion in Schools

The Brazilian government has launched programs to encourage physical exercise in schools. These initiatives seek to develop sports and leisure areas, include physical education into the curriculum, and promote walking and bicycling to commute to and from school.

3.1.3 Active Living by Design

Popularized in Brazil, the idea of "active living" highlights incorporating physical exercise into everyday life. This entails planning cities to make cycling, walking, and other active transportation easier. The promotion of physical exercise may be facilitated by urban design and infrastructure, as acknowledged by the Brazilian government. Some initiatives include developing parks and recreational places, encouraging bike-sharing programs, and designing pedestrian-friendly locations.

3.1.4 Health Promotion initiatives

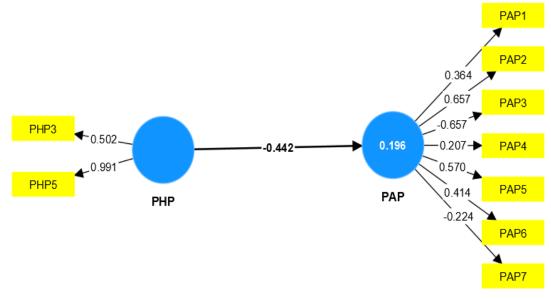
Public health initiatives are frequently started to encourage individuals to lead more active lifestyles and increase knowledge of the advantages of physical activity. These advertisements could be directed at particular demographics or age groups.

3.1.5 Community Engagement

Including communities in the creation and execution of physical activity initiatives is emphasized. Promoting long-lasting behavior change requires collaborations with neighborhood organizations and community-based programs.

3.1.6 Public health surveillance

To make well-informed policy choices, it is crucial to track and assess the population's levels of physical activity. Brazil invests in public health surveillance programs to collect information on patterns of physical activity and associated health markers.



3.2 Smart PLS Algorithm Model



The above model describes that smart PLS Algorithm model the PHP is independent variable according to the model its shows 0.502, 0.991 positive also significant influence of Brazil's public health polices related to the physical activity promotion in urban areas. The PHP shows 0.442 means 44% link with PAP. According to the smart Algorithm model its rates are 0.364, 0.657, 0.207, 0.570, 0.414, -0.224 shows that direct and significantly link between them.

3.3 Descriptive statistical analysis

NAME	NO.	MEAN	MEDIAN	SCALE MIN	SCALE MAX	STANDARD DEVIATION	EXCESS KURTOSIS	SKEWNES S	CRAMÉR-VON MISES P VALUE	
PHP1	0	1.327	1.000	1.000	2.000	0.469	-1.479	0.763	0.000	
PHP2	1	1.388	1.000	1.000	2.000	0.487	-1.851	0.475	0.000	
PHP3	2	1.551	2.000	1.000	3.000	0.574	-0.694	0.463	0.000	
PHP4	3	1.469	1.000	1.000	2.000	0.499	-2.070	0.127	0.000	
PHP5	4	1.490	1.000	1.000	3.000	0.539	-1.002	0.445	0.000	
PHP6	5	1.306	1.000	1.000	2.000	0.461	-1.301	0.868	0.000	
PAP1	6	1.551	2.000	1.000	3.000	0.537	-1.139	0.198	0.000	
PAP2	7	1.388	1.000	1.000	3.000	0.527	-0.315	0.902	0.000	
PAP3	8	1.469	1.000	1.000	3.000	0.610	-0.042	0.958	0.000	
PAP4	9	1.531	1.000	1.000	3.000	0.575	-0.634	0.541	0.000	
PAP5	10	1.490	1.000	1.000	3.000	0.576	-0.453	0.703	0.000	
PAP6	11	1.490	1.000	1.000	3.000	0.610	-0.184	0.874	0.000	
PAP7	12	1.612	2.000	1.000	3.000	0.633	-0.577	0.556	0.000	

Table 1

The above result represents that descriptive statistical analysis results describe that mean values, median rates, minimum and maximum values also explain the standard deviation of each independent and dependent variable. The result represents the skewness values and probability values of variables. the PHP1, PHP2, PHp3, PHP4, PHP5 and PHP6 these are all consider as independent variables according to the result. Its mean values are 1.327, 1.388, 1.551, 1.469, 1.490 and 1.306 these are all shows that positive average value of mean. The standard deviation rates are 0.469, 0.487, 0.574, 0.499,0.539 and 0.461.

These represent that 46%, 48%, 57%, 49%, and 53% deviate from mean values. The result describe that skewness

values are 76%, 47%, 46%, 12%, 44% and 86% skewness rates of each indicator. According to the above result, the overall minimum value is 1.000, the maximum value is 3.000, and the median rate is 1.000, respectively. The result describes that PAP1,2,3,4,5,6 and 7 are all considered dependent variables. According to the result, mean, n values are 1.551, 1.388, 1.531, 1.490, and 1.612. All of them present with positive average values of the mean. The standard deviation rates are 53%, 61%, 63%, 57% deviate from mean values. The skewness rates are 0.958, 0.541, 0.703, 0.874, 0.556 shows skewness rates between them.

3.4 Correlation coefficient

	PHP1	PHP2	PHP3	PHP4	PHP5	PHP6	PAP1	PAP2	PAP3	PAP4	PAP5	PAP6	PAP7
PAP1	0.258	-0.271	-0.257	0.101	-0.227	-0.352	1.000	0.000	0.000	0.000	0.000	0.000	0.000
PAP2	-0.182	-0.029	0.036	0.161	-0.309	0.351	0.110	1.000	0.000	0.000	0.000	0.000	0.000
PAP3	0.106	0.006	0.136	-0.255	0.232	-0.366	-0.042	-0.185	1.000	0.000	0.000	0.000	0.000
PAP4	-0.415	0.067	0.042	-0.157	-0.114	0.003	-0.154	0.062	-0.128	1.000	0.000	0.000	0.000
PAP5	-0.290	0.196	0.110	0.194	-0.181	0.127	0.051	0.248	-0.248	0.078	1.000	0.000	0.000
PAP6	-0.202	-0.090	-0.071	0.317	-0.171	0.410	-0.201	0.171	-0.344	0.074	0.247	1.000	0.000
PAP7	-0.123	-0.174	-0.198	0.059	0.198	-0.013	0.088	0.022	0.101	0.005	-0.151	0.175	1.000
PHP1	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PHP2	0.071	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PHP3	-0.214	0.331	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PHP4	-0.132	-0.077	-0.404	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PHP5	0.094	0.054	0.381	-0.399	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PHP6	-0.179	0.017	0.057	0.174	-0.028	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 2

The above result represents that correlation coefficient analysis results describe some positive and some negative correlation between them.

3.5 Brazil's Public Health Policies

In Brazil, many key public health policies focus on promoting physical activity in urban areas. These policies are usually for addressing the concerns related to a sedentary lifestyle and the associated health risks. The Brazilian Federal government launched a "Physical Activity Guide for the Brazilian Population" guideline, which provides recommendations for different age groups, including children and youngsters. These guidelines emphasize the importance of daily physical activity and set specific recommendations for the population in urban areas. To promote physical activity and a healthy lifestyle by providing access to exercise facilities, fitness classes, and wellness programs in communities across Brazil. School health program in Brazil emphasizes the importance of physical activity in schools. It promotes physical education, sports participation, and active play among students.

The program also focuses on creating a supportive environment for physical activity within school settings. Brazil's relationship with the global effort to promote physical activity through the implementation of the Global Action Plan. This involves spending on the construction and retraining of poor facilities in schools and nearby homes, magnifying physical education and school-based programs, and implementing community-wide initiatives to encourage physical activity. Brazil has been carrying out community-based initiatives to promote physical activity. This creativity aims to create a supportive environment that uplifts the active lifestyle and Addresses inequalities in physical activity participation. These critical public health policies in Brazil came to promote physical activity in urban areas.

3.6 Implementing Public Health Policies

In urban areas of Brazil, public health policies have played a significant role in promoting physical activity. Focusing on urban settings is crucial due to the high population density and the unique challenges these environments face. Brazil's public health policies have led to the development of a foundation that supports physical activity in urban areas. This includes the creation of parks, bike lanes, pedestrian-friendly spaces, and sports facilities that encourage active transportation and recreational activities.

Health policies have highlighted the importance of physical education in schools located in urban areas. By making physical education compulsory and ensuring that schools have enough facilities for physical activity, children and youngsters in urban settings are more likely to exercise regularly. Brazil's public health policies have promoted community engagement in urban areas to create a culture of physical activity. Community-based programs, sports clubs, and recreational events encourage residents to participate in physical activities. Health campaigns in urban areas raise awareness about the benefits of physical activity and encourage residents to adopt active lifestyles. These campaigns target families, schools, and community organizations to promote physical activity as an important part of a healthy lifestyle.

Public health policies in urban areas are supported by research and evaluation efforts to estimate the impact of interventions on physical activity levels. Monitoring trends and outcomes helps policy-makers make informed decisions and adjust strategies better to promote physical activity among the population in urban areas. Brazil's public health policies have positively influenced the promotion of physical activity in urban areas, creating an environment that supports and encourages active living among the population.

3.7. Challenges

Regardless of the efforts made by Brazil's public health policies to promote physical activity in urban areas, several challenges exist in implementing and sustaining these policies. Limited resources, including funding and personnel, can hinder the implementation and sustainability of public health policies in urban areas. this can lead to inadequate infrastructure, insufficient staffing, and limited access to resources needed to promote physical activity. Equity in access to physical activity opportunities exists in urban areas, with low-income and marginalized communities often having limited access to safe and affordable spaces for physical activity. This can lead to an imbalance in physical activity levels among the population of urban areas. Urbanization and the built environment can present challenges to physical activity promotion in urban areas. The lack of green spaces, safe walking and biking paths, and recreational facilities can discourage physical activity and contribute to a lazy lifestyle. Lack of coordination among different sectors can delay the implementation and satisfaction of public health policies in urban areas. This can lead to breaking the efforts and limiting the impact of physical activity promotion. Resistance to change can pose a challenge to implementing and sustaining public health policies in urban areas.

This can be due to cultural norms, awareness, or opposition from organizations, making it difficult to implement and sustain policies that promote physical activity. The COVID-19 pandemic has posed significant challenges to physical activity promotion in urban areas. The closure of schools, parks, and recreational facilities as well as restrictions on outdoor activities have limited opportunities for physical activity among the population of urban areas. These challenges require a coordinated effort from policy-makers and community organizations to ensure that public health policies are implemented and sustained in urban areas. This includes addressing inequities in access, investing in infrastructure, promoting community engagement, and adapting to changes in circumstances such as the COVID-19 pandemic.

4. Conclusion

Public health policies have played a crucial role in promoting physical activity in urban areas by focusing on infrastructure development School based programs community engagement safe roots to school's health promotion campaigns and research and evaluation. despite facing challenges, these policies have made significant tribes in creating environments that support and encourage active living among residents in urban settings. It is significant that the efficacy of these policies is contingent upon their efficient execution, continuous assessment, and flexibility in response to the dynamic health environment. The research study measures the influence of brazil's public health policies on physical activity promotion related to the urban areas. For measuring the research used smart PLS software and generate informative result included descriptive statistic, correlation coefficient also that model between them. In conclusion, via a variety of public health policies and programs, Brazil has achieved progress in encouraging physical exercise in urban areas. Acknowledging the significance of leading a healthier lifestyle and the impact of non-communicable diseases, the nation has taken steps to provide settings that encourage higher levels of physical exercise.

A framework for promoting healthy behaviors is provided by the National Health Promotion Policy, which places particular emphasis on incorporating physical exercise into daily life. Making active life more enticing and accessible is the goal of initiatives in education, infrastructural development, and urban planning. In addition, health promotion initiatives and community involvement are essential for increasing awareness and encouraging behavior modification. The overall research concluded that positive and significant link between them. These programmers' success, like that of any public health project, hinges on their ability to be implemented successfully, be continuously assessed, and be adjusted to the changing demands of the populace. Brazil's dedication to encouraging physical exercise is indicative of a global understanding of the value of preventive healthcare in addressing the growing incidence of noncommunicable diseases. Brazil's urban population will become healthier and more active as long as these initiatives are maintained.

REFERENCES

- Ács, P., Betlehem, J., Oláh, A., Bergier, J., Melczer, C., Prémusz, V., & Makai, A. (2020). Measurement of public health benefits of physical activity: validity and reliability study of the international physical activity questionnaire in Hungary. *BMC Public Health, 20*(Suppl 1), 1198.
- Bikomeye, J. C., Balza, J., & Beyer, K. M. (2021). The impact of schoolyard greening on children's physical activity and socioemotional health: A systematic review of experimental studies. *International Journal of Environmental Research and Public Health, 18*(2), 535.

Burrichter, K., Chen, B., & Marco, G. (2022). Evaluation of modern technology

on human resources management and sustainable development in Pharma industries. *Journal of Commercial Biotechnology*, 27(2). doi:<u>https://doi.org/10.5912/jcb1296</u>

- Ceazón, T. E., Peter, A. S., & Cindy, H. (2021). Paclitaxel Exposure and Dosage of Drug-coated Devices for the Treatment of Femoropopliteal Peripheral Artery Disease. *Vascular & Endovascular Review, 4*.
- Ceschini, F. L., Andrade, D. R., Oliveira, L. C., Araújo Júnior, J. F., & Matsudo, V. K. (2009). Prevalence of physical inactivity and associated factors among high school students from state's public schools. *Jornal de pediatria, 85*, 301-306.
- Cocca, A., Espino Verdugo, F., Ródenas Cuenca, L. T., & Cocca, M. (2020). Effect of a game-based physical education program on physical fitness and mental health in elementary school children. *International Journal of Environmental Research and Public Health*, *17*(13), 4883.
- da Silva Scaranni, P. d. O., de Oliveira Cardoso, L., Chor, D., Melo, E. C. P., Matos, S. M. A., Giatti, L., . . . da Fonseca, M. d. J. M. (2021). Ultraprocessed foods, changes in blood pressure and incidence of hypertension: the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil). *Public Health Nutrition, 24*(11), 3352-3360.
- de Freitas, P. P., de Menezes, M. C., Dos Santos, L. C., Pimenta, A. M., Ferreira,
 A. V. M., & Lopes, A. C. S. (2020). The transtheoretical model is an effective weight management intervention: a randomized controlled trial. *BMC Public Health, 20*(1), 1-12.
- de Lucena Martins, C. M., Lemos, L. F. G. B. P., de Souza Filho, A. N., Bezerra, T. A., Soares, I. A. A., Mota, J. G., . . . Duncan, M. J. (2021). Adherence to 24-hour movement guidelines in low-income Brazilian preschoolers and associations with demographic correlates. *American Journal of Human Biology, 33*(4), e23519.
- de Morais Pinto, R., de Medeiros Valentim, R. A., Fernandes da Silva, L., Góis Farias de Moura Santos Lima, T., Kumar, V., Pereira de Oliveira, C. A., ... de Andrade, I. (2021). Analyzing the reach of public health campaigns based on multidimensional aspects: the case of the syphilis epidemic in Brazil. *BMC Public Health, 21*, 1-13.
- Debon, R., Bellei, E. A., Biduski, D., Volpi, S. S., Alves, A. L. S. A., Portella, M. R., & De Marchi, A. C. B. (2020). Effects of using a mobile health application on the health conditions of patients with arterial hypertension: A pilot trial in the context of Brazil's Family Health Strategy. *Scientific Reports*, *10*(1), 6009.
- Haddad, M. R., & Sarti, F. M. (2020). Sociodemographic determinants of health behaviors among Brazilian adolescents: Trends in physical activity and food consumption, 2009–2015. *Appetite, 144*, 104454.
- Heath, G. W., Parra, D. C., Sarmiento, O. L., Andersen, L. B., Owen, N., Goenka, S., . . . Brownson, R. C. (2012). Evidence-based intervention in physical activity: lessons from around the world. *The lancet, 380*(9838),

272-281.

- Hino, A. A., Reis, R. S., Sarmiento, O. L., Parra, D. C., & Brownson, R. C. (2011). The built environment and recreational physical activity among adults in Curitiba, Brazil. *Preventive medicine*, 52(6), 419-422.
- Hoehner, C. M., Soares, J., Perez, D. P., Ribeiro, I. C., Joshu, C. E., Pratt, M., ... Ramos, L. R. (2008). Physical activity interventions in Latin America: a systematic review. *American journal of preventive medicine*, 34(3), 224-233. e224.
- Longo, A., Aquilino, G., Cardey, M., Lentini, N., & Prada, E. (2021). Physical Fitness in Early Adolescent Athletes of Combat Sports. *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte, 21*(82), 253-267.
- Lowe, M., Adlakha, D., Sallis, J. F., Salvo, D., Cerin, E., Moudon, A. V., . . . Boeing, G. (2022). City planning policies to support health and sustainability: an international comparison of policy indicators for 25 cities. *The Lancet global health*, *10*(6), e882-e894.
- Martínez-Andrés, M., Bartolomé-Gutiérrez, R., Rodríguez-Martín, B., Pardo-Guijarro, M. J., Garrido-Miguel, M., & Martínez-Vizcaíno, V. (2020).
 Barriers and facilitators to leisure physical activity in children: a qualitative approach using the socio-ecological model. *International Journal of Environmental Research and Public Health*, *17*(9), 3033.
- Mendonça, B. C., Oliveira, A. C., Toscano, J. J. O., Knuth, A. G., Borges, T. T., Malta, D. C., . . . Hallal, P. C. (2010). Exposure to a community-wide physical activity promotion program and leisure-time physical activity in Aracaju, Brazil. *Journal of physical activity and health*, 7(s2), S223-S228.
- Monteiro, C. A., Conde, W. L., Matsudo, S. M., Matsudo, V. R., Bonseñor, I. M., & Lotufo, P. A. (2003). A descriptive epidemiology of leisure-time physical activity in Brazil, 1996-1997. *Revista Panamericana de Salud Publica*, 14(4), 246-254.
- Moral-García, J. E., Agraso-López, A. D., Ramos-Morcillo, A. J., Jiménez, A., & Jiménez-Eguizábal, A. (2020). The influence of physical activity, diet, weight status and substance abuse on students' self-perceived health. *International Journal of Environmental Research and Public Health*, 17(4), 1387.
- Nickel, S., & von dem Knesebeck, O. (2020). Effectiveness of communitybased health promotion interventions in urban areas: a systematic review. *Journal of community health, 45*, 419-434.
- Nilson, E. A. F., Metlzer, A. B., Labonté, M.-E., & Jaime, P. C. (2020). Modelling the effect of compliance with WHO salt recommendations on cardiovascular disease mortality and costs in Brazil. *PLoS One, 15*(7), e0235514.
- Parra, D. C., Dauti, M., Harris, J. K., Reyes, L., Malta, D. C., Brownson, R. C., ... Pratt, M. (2011). How does network structure affect partnerships for promoting physical activity? Evidence from Brazil and Colombia. Social

science & medicine, 73(9), 1365-1370.

- Pérez-Escamilla, R., Vilar-Compte, M., Rhodes, E., Sarmiento, O. L., Corvalan, C., Sturke, R., & Vorkoper, S. (2021). Implementation of childhood obesity prevention and control policies in the United States and Latin America: Lessons for cross-border research and practice. *Obesity Reviews*, 22, e13247.
- Rahman A, M., & Chandrasekaran, B. (2021). Estimating the impact of the pandemic on children's physical health: a scoping review. *Journal of School Health*, *91*(11), 936-947.
- Rodríguez-González, P., Cecchini, J., Méndez-Giménez, A., & Sánchez-Martínez, B. (2021). INTRINSIC MOTIVATION, EMOTIONAL INTELLIGENCE AND SELF-REGULATED LEARNING: A MULTILEVEL ANALYSIS MOTIVACIÓN INTRÍNSECA, INTELIGENCIA EMOCIONAL Y AUTORREGULACIÓN DEL. *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte, 21*(82).
- Sallis, J. F., Adlakha, D., Oyeyemi, A., & Salvo, D. (2020). An international physical activity and public health research agenda to inform coronavirus disease-2019 policies and practices. *Journal of Sport and Health Science*, *9*(4), 328-334.
- Sallis, J. F., Bowles, H. R., Bauman, A., Ainsworth, B. E., Bull, F. C., Craig, C. L., . . . Matsudo, V. (2009). Neighborhood environments and physical activity among adults in 11 countries. *American journal of preventive medicine*, 36(6), 484-490.
- Sallis, J. F., Cerin, E., Conway, T. L., Adams, M. A., Frank, L. D., Pratt, M., . . . Cain, K. L. (2016). Physical activity in relation to urban environments in 14 cities worldwide: a cross-sectional study. *The lancet,* 387(10034), 2207-2217.
- Salvo, D., Garcia, L., Reis, R. S., Stankov, I., Goel, R., Schipperijn, J., ... Pratt,
 M. (2021). Physical activity promotion and the United Nations sustainable development goals: building synergies to maximize impact. *Journal of Physical Activity and Health, 18*(10), 1163-1180.
- Santos, D. S. d., Hino, A. A. F., & Höfelmann, D. A. (2019). Iniquities in the built environment related to physical activity in public school neighborhoods in Curitiba, Paraná State, Brazil. *Cadernos de saude publica, 35*.
- van Sluijs, E. M., Ekelund, U., Crochemore-Silva, I., Guthold, R., Ha, A., Lubans, D., . . . Katzmarzyk, P. T. (2021). Physical activity behaviours in adolescence: current evidence and opportunities for intervention. *The Lancet, 398*(10298), 429-442.
- Werneck, A. O., Sadarangani, K. P., Ramírez-Vélez, R., Baldew, S.-S., Gomes, T. N., Ferrari, G., . . . collaborators, S. B. N. (2020). Macroeconomic, demographic and human developmental correlates of physical activity and sitting time among South American adults. *International journal of behavioral nutrition and physical activity, 17*, 1-13.