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RECREATIONAL CYCLING AND URBAN MOBILITY: AN ANALYSIS OF THE MOTIVATIONS OF CYCLISTS IN BLUMENAU/SC

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ABSTRACT: Motivation is a complex phenomenon that drives human actions. Diagnosing these interests provides elements for reflection in promoting activities and implementing public policies. In this context, the present study aims to analyze the motivations of recreational cyclists in Blumenau, SC (Brazil), a city with a population of 363,000 inhabitants and a cycling network of 137 kilometers. Empirical data for the research were collected through a questionnaire. Ultimately, a sample of 304 respondents was obtained. The study's results indicate that motivation for physical activities plays a central role in the relationship with other factors of interest, contributing to overcoming potentially discouraging aspects. Conversely, individuals

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motivated by other factors, such as social interaction and personal development, rely more on encouraging stimuli, suggesting that in such cases there's a need for greater incentives for recreational cycling. The conclusions of this study are relevant for urban planners and communication managers. By assessing the relevance of motivating and demotivating factors in cycling, the research results underscore the importance of investing in appropriate infrastructure, such as expanding the cycling network and launching promotional campaigns, to promote cycling as a means of transportation and/or recreation.

KEYWORDS: Recreational cycling. Urban mobility. Motivations. Uses and gratifications. Bicycle.

CICLISMO RECREACIONAL E MOBILIDADE URBANA: ANÁLISE DAS MOTIVAÇÕES DOS CICLISTAS DE BLUMENAU/SC

RESUMO: A motivação é um fenômeno complexo que impulsiona as ações humanas. O diagnóstico de tais interesses oferece elementos de reflexão para a promoção de atividades e a implementação de políticas públicas. Neste contexto, o presente trabalho tem o objetivo de analisar as motivações dos praticantes de ciclismo recreacional de Blumenau/SC, município com uma população de 363 mil habitantes e uma malha cicloviária de 137 quilômetros. A coleta dos dados empíricos da pesquisa ocorreu por meio da aplicação de um questionário. Ao final, obteve-se uma amostra de 304 respondentes. Os resultados do estudo indicam que a motivação para as atividades físicas ocupa papel central na relação com outros fatores de interesse, contribuindo para a superação de aspectos eventualmente desencorajadores. Em contrapartida, praticantes que têm outras motivações, como a interação social e o desenvolvimento pessoal, dependem mais de estímulos encorajadores, o que sugere que em tais casos existe a necessidade de maior incentivo para a prática do ciclismo recreacional. As conclusões deste estudo são relevantes para planejadores urbanos e gestores de comunicação. Ao mensurar a pertinência de causas motivadoras e desmotivadoras do ciclismo, os resultados da pesquisa indicam a importância de investir em infraestrutura adequada como a expansão da rede cicloviária e a criação de campanhas de divulgação, a fim de promover a bicicleta como meio de transporte e/ou recreação.

PALAVRAS-CHAVE: Ciclismo recreacional. Mobilidade urbana. Motivações. Usos e gratificações. Bicicleta.

Introduction

Motivations are the internal strength or impulse of an individual, structured from a complex web of feelings, experiences and desires guiding the performance of human activities. Constituting a central pillar at the heart of human behavior, they play a vital role in interaction with the world and, more significantly, with other human beings, thus

outlining the extensive network of relationships that make up the social environment (ALI; ABRAR; HAIDER, 2012; SIMPSON; BALSAM, 2016).

In the context of recreational cycling, different studies investigate the motivation of those who practice the activity. Research includes the work of LaChausse (2006), Skar, Odden and Inge Vistad (2008), Faulks, Dodd and Ritchie (2008), Winters *et al.* (2011), Ho *et al*. (2015), Useche *et al*. (2019), Nazarudin, Noordin and Abdullah (2020), Charreire *et al*. (2021), Oliveira *et al*. (2021), among others. According to such investigations, cyclists are interested in aspects such as the search for happiness, the feeling of belonging, the enhancement of self-esteem, recognition and self-realization, the relationship with the environment, leisure, physical exercise, competition and exceeding goals.

In this regard, this paper aims to analyze the motivations of recreational cyclists in Blumenau/SC, a municipality in the State of Santa Catarina with a population of 363 thousand inhabitants (IBGE, 2022) and a cycling network of 137 kilometers, divided between cycle lanes (84 kilometers), cycle paths (26 kilometers) and shared tours (27 kilometers). The Blumenau Urban Mobility Plan highlights the growth potential of bicycles as a means of transport and foresees the completion of a 155-kilometer cycle network in the medium term (BLUMENAU, 2018). Nonetheless, there are no studies on the motivation of cyclists in the municipality, which represents an additional challenge to the implementation of actions in the area. The purpose of this study is to fill this gap.

Understanding motivations is essential for promoting cycling as an alternative recreation that contributes to satisfying human needs and improving urban mobility. Mobility is a challenge for large centers and the growth of cities has pressured planners to adopt new transport solutions (SCHRANK; EISELE and LOMAX, 2019). In such circumstances, the bicycle appears as a more sustainable and healthy means, as it does

not emit pollutants and promotes physical and mental health, contributing to quality of life (PORRU *et al*., 2020; HUDDE, 2022).

In its implementation, the present research uses the studies of Faulks, Dodd and Ritchie (2008) and Useche et al. (2019) as a theoretical and methodological reference. The paper adopts a quantitative approach, using questionnaires as a data collection method. The sample selected for convenience includes responses from 304 recreational cyclists. The results are analyzed using statistical techniques such as Cronbach's Alpha analysis, Spearman's correlation and Structural Equation Modeling (SEM). The dimensions of analysis include social, intellectual, qualification and inhibition motivations, as well as encouraging and discouraging factors.

The structure of the work includes the following sections: this Introduction, Theoretical Foundation, Methodology, Presentation and Discussion of Results and Final Considerations. The reflections presented here are part of a broader work and constitute a preliminary approach to the topic, which add to previous efforts by its authors.[5] The initiative seeks to contribute to new research in the area and, thus, encourage the debate on cycling, recreation and urban mobility.

Theoretical Grounds

Motivation refers to a set of reasons that explain, induce, encourage, provoke or stimulate a human action or behavior (USECHE et al., 2019; REINERT et al., 2023). Hofstede (1983) states that different motives can lead to the same behavior, while Thorhauge *et al.* (2020) highlight that individual motivations and the environment in which the individual is inserted influence their choices.

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Steers, Mowday & Shapiro (2004) point out common characteristics in motivation theories: (1) energy for human behavior, (2) directing that behavior, and (3) sustaining the behavior. Charreire *et al.* (2021) highlight that motivation is an internal phenomenon, related to intentional action that seeks to meet needs, desires or expectations through conscious choices. Motivations arise from needs and the social, psychological and circumstantial context, and result in the search for sources of satisfaction.

American psychologist Abraham Maslow developed the concept of the Hierarchy of Needs, which has three basic principles regarding motivations: 1) Humans are motivated by the desire to satisfy specific types of needs; 2) these needs are universal; 3) they follow a sequential hierarchical order. Needs can be divided into three dimensions: basic needs (physiological and safety), psychological needs (social and self-esteem) and the ego or personal fulfillment dimension. Higher needs emerge only after lower needs have been satisfied and, as a need is satisfied, it decreases in importance, leading the individual to seek the next need in the hierarchy (MASLOW, 1962).

In the field of communication, from the 1940s and 1950s onwards, studies began on what motivates consumers to choose brands, information and entertainment channels. The uses and gratifications model is based on three principles: 1) the consumer is an active participant who seeks to satisfy desires and needs; 2) the choice of what to consume and how it satisfies the individual is determined by the individual; 3) the individual is aware of the reasons that lead him to choose one thing over another (KATZ; BLUMLER and GUREVITCH, 1973).

Although the uses and gratifications theory focuses on media relations, it applies to different areas, as its main objective is to understand the reasons for individuals'

choices. Thus, there are numerous studies that link motivations and cycling, for example. LaChausse (2006) researched the motivations of competitive and non-competitive cyclists. Skar, Odden and Inge Vistad (2008) investigated the motivations for practicing mountain biking. Winters *et al.* (2011) compared different interests in cycling, while Ho *et al.* (2015), Nazarudin, Nordin and Abdullah (2020) analyzed the influence of different interests on the practice of recreational cycling.

Faulks, Dodd and Ritchie (2008) studied the motivations for cycling, relating a series of variables that are articulated around four dimensions of analysis, called: "social" (related to interaction, friendships, personal esteem), "intellectual" (related to learning, discovery, curiosity), "mastery of qualification" (related to the idea of staying active) and "inhibition of stimuli" (related to the search for physical and mental relaxation). The research found the importance of social interaction, personal challenge and concern for health/fitness as motivating factors for recreational cycling.

Useche *et al.*, in turn, (2019) investigated aspects that encourage or discourage bicycle use. The work identified physical health, environmental sustainability and the economy as the main factors encouraging cycling, while the perception of collision risk, adverse weather conditions and lack of safety would be the most relevant obstacles. According to the study, individuals who cycle more regularly are less prone to accidents.

In short, previous research demonstrates that motivation for cycling is a complex and multifaceted phenomenon, influenced by individual, cultural and contextual factors (OLIVEIRA et al. 2021). Recreational cycling is capable of meeting a wide range of human needs, from basic ones to those related to self-realization (TEIXEIRA; SILVA and SÁ, 2021). Therefore, by understanding the motivations behind this practice, one can understand its potential to promote well-being, personal growth, individual

satisfaction, and improving the environment in which people live (VAN DER MEULEN, 2022). As Busarello and Reis (2023) note, the implementation of cycle paths can produce a series of territorial transformations.

Cities recognized for efficient urban planning prioritize functional zoning, integrated infrastructure, green spaces, leisure areas, sustainability, accessibility and mobility (ROLIM; BAPTISTA, 2021). However, even in centers considered "smart", problems such as congestion, pollution and a lack of adequate infrastructure for daily travel are faced (LUGER–BAZINGER; HORNUNG–PRÄHAUSER, 2021).

Within this scenario, the bicycle appears as an alternative for promoting more sustainable and healthy mobility (KALTENBRUNNER et al., 2010). Classic or electric, the bicycle does not use fossil fuels and does not emit pollutants, constituting a way to reduce the environmental impact of cities (HUDDE, 2022). Quiet, takes up little space, promotes physical and mental health, in addition to providing recreation and contributing to the population's quality of life (MINISTÉRIO DAS CIDADES, 2016).

Methodology

From the perspective of scientific methodology, this paper is classified as applied research (in terms of nature), quantitative (in terms of approach to the problem) and exploratory-descriptive (in terms of achieving the objectives). Empirical data was collected through the application of a questionnaire using the Google Forms tool, from June 15th to July 5th, 2021. In order to encourage participation, the research was disseminated on the social networks Facebook and Instagram. In the end, a sample of 304 respondents was obtained.

The questionnaire contained 62 questions, distributed across five dimensions of motivations related to research by Faulks, Dodd and Ritchie (2008). In addition, two

dimensions of encouraging and discouraging factors for cycling were incorporated, incorporated from Useche *et al.* (2019). The table below presents the dimensions of the research, its respective variables, as well as the theoretical-methodological references of the study.

Table 1: Schedule for analyzing the motivations for recreational cycling

Dimensions	Variables	Reference
Called "social": its purpose is to discover motivations related to social interaction, friendships, personal esteem.	Building friendships	Faulks, Dodd and Ritchie (2008)
	Meeting new and different people	
	Being socially qualified and skilled	
	Interacting with other people	
	Developing close friendships	
	Belonging to something	
	Earning respect	
	Revealing my physical thoughts or abilities	
Called "intellectual", its purpose is to discover motivations related to learning, discovery, curiosity.	Learning about the things around me	
	Being creative	
	Satisfying my curiosity	
	Learning new things	
	Expanding my knowledge	
	Exploring new ideas	
	Using my imagination	
	Getting to know myself	
Called "qualification", it aims to discover motivations related to the idea of staying active.	Developing physical skills	
	Being active	
	Being good at cycling	
	Challenging my skills	
	Staying physically fit	
	Using my physical abilities	
Called "stimulus inhibition", it aims to discover motivations related to the search for physical and mental relaxation.	Relieving stress and tension	
	Avoiding confusion and hustle and bustle of daily activities	
	Resting	
	Enjoying my time	
	Slowing down	
	Relaxing physically	
	Relaxing mentally	
	Because sometimes I like being alone	
Called "encouraging factors", it aims to discover motivations that encourage cycling.	For environmental reasons	Useche *et al.* (2019)
	For economic reasons	
	To better explore the city's spaces	
	For political reasons	
	For social reasons	
Called "discouraging factors", it aims to discover motivations that discourage cycling.	Lack of bike rack	
	Weather	
	Lack of physical conditioning	
	Disrespect on the part of drivers	
	Lack of incentive from the government for this type of leisure	
	Not safe in traffic	
	Many hills	

	Lack of bicycle-related services	
	Lack of bike lanes	

Source: Authors (2023).

Based on Table 1, participants answered a questionnaire whose answers followed a five-point scale, starting with "I don't know" (0), "I completely disagree" (1), "I disagree" (2), and then "I agree" (3) and "completely agree" (4).To analyze the responses, statistical procedures were adopted that included Cronbach's Alpha analysis, Spearman correlation and Structural Equation Modeling (SEM). For these procedures, the SmartPLS 2.0 and IBM SPSS 23 software were used.

Presentation and Discussion of Results

As shown in Table 1, the study sample is predominantly composed of female (45.1%) and male (53.6%) participants, with a small portion identified as "others" (1.3%). The most representative age group in the sample is 30 to 39 years old (33.9%), followed by the 20 to 29 years old group (28.3%). The youngest (15 to 19 years old) and oldest (50 years old and over) age groups were less represented, indicating that recreational cycling mainly attracts individuals in their 30s.

Regarding the respondents' education, the majority have a higher education degree (43.8%), followed by those with a postgraduate degree at a specialization level (23.7%). Not to mention that a significant portion of the sample has completed or incomplete secondary education (18.4%). This diversity of educational levels suggests that recreational cycling attracts people with different levels of education, which may indicate a variety of motivations and interests related to its practice.

In terms of family income, the majority of participants receive up to five minimum wages (54.6%), followed by those with incomes of six to ten minimum wages (28.9%). A smaller proportion of the sample has an income greater than 10 minimum wages (16.4%). Such information provides information on the accessibility and

economic impact of recreational cycling, in addition to helping to understand possible correlations between income and motivations for cycling.

Table 1: Sociodemographic profile of respondents

	Sociodemographic Characteristics	Frequency	%
Gender	Female	137	45.1%
	Male	163	53.6%
	Others	4	1.3%
	Total	**304**	**100.0%**
Age Range	15 to 19	17	5.6%
	20 to 29	86	28.3%
	30 to 39	103	33.9%
	40 to 49	65	21.4%
	50 years or older	33	10.9%
	Total	**304**	**100.0%**
Education	Elementary School (complete/incomplete)	1	0.3%
	High School (complete/incomplete)	56	18.4%
	College Education (complete/incomplete)	133	43.8%
	Lato Sensu (complete/incomplete)	72	23.7%
	Stricto Sensu (complete/incomplete)	42	13.8%
	Total	**304**	**100.0%**
Family Income	Up to 5 minimum wages	166	54.6%
	from 6 to 10 minimum wages	88	28.9%
	More than 10 minimum wages	50	16.4%
	Total	**304**	**100.0%**

Source: Authors (2023).

As seen in Table 2, some results stand out in the participants' responses. With regard to social dimension, the majority of participants agree that the practice of recreational cycling mainly contributes to interacting with other people (85.9%), meeting people (80.9%) and building friendships (79.3%). In the intellectual dimension, respondents related cycling to discovering new things (94.4%) and learning about things around them (91.8%).

In the qualification dimension, participants agree that recreational cycling helps them to be active (99.3%), stay in shape (97%) and use physical skills (9673%). With regard to the dimension called stimulus inhibition, respondents highlighted the

relationship between cycling and mental relaxation (97.7%), use of time (96.4%) and relief from stress and tension (96.1%).

Regarding factors encouraging cycling, participants mainly highlighted the relationship with city spaces (91.5%) and environmental issues (80.2%). The political and economic aspects were at the other end of the table. As for lack of motivation, the highlights are the lack of adequate roads (88.8%), disrespect from drivers (88.2%) and insecurity in traffic (87.8%). The lack of physical fitness and the city's terrain are the factors that least discourage cycling.

Table 2: Motivations for practicing recreational cycling

Variables	Indecisive 0		Do not agree 1 and 2		Agree 3 and 4	
	Frequency		Frequency		Frequency	
Building friendships	34	11.2%	29	9.5%	241	79.3%
Meeting new and different people	28	9.2%	30	9.9%	246	80.9%
Being socially qualified and skilled	75	24.7%	78	25.7%	151	49.6%
Interacting with other people	15	4.9%	28	9.2%	261	85.9%
Developing close friendships	70	23.0%	80	26.3%	154	50.7%
Belonging to something	56	18.4%	68	22.4%	180	59.2%
Earning respect	79	26.0%	112	36.8%	113	37.2%
Revealing my physical thoughts or abilities	32	10.5%	32	10.6%	240	78.9%
Learning about the things around me	13	4.3%	12	3.9%	279	91.8%
Being creative	43	14.2%	21	6.9%	240	78.9%
Satisfying my curiosity	26	8.5%	16	5.3%	262	86.2%
Learning new things	9	3.0%	8	2.6%	287	94.4%
Expanding my knowledge	26	8.5%	19	6.3%	259	85.2%
Exploring new ideas	21	6.9%	15	4.9%	268	88.2%
Using my imagination	32	10.5%	19	6.3%	253	83.2%
Getting to know myself	20	6.6%	15	4.9%	269	88.5%
Developing physical skills	9	3.0%	2	0.7%	293	96.3%
Being active	2	0.7%	0	0.0%	302	99.3%
Being good at cycling	35	11.5%	19	6.3%	250	82.2%
Challenging my skills	17	5.6%	5	1.6%	282	92.8%
Staying physically fit	7	2.3%	2	0.7%	295	97.0%
Using my physical abilities	6	2.0%	4	1.3%	294	96.7%
Relieving stress and tension	8	2.6%	4	1.3%	292	96.1%
Avoiding confusion and hustle and bustle of daily activities	24	7.9%	18	5.9%	262	86.2%
Resting	34	11.2%	29	9.5%	241	79.3%
Enjoying my time	7	2.3%	4	1.3%	293	96.4%
Slowing down	66	21.7%	33	10.9%	205	67.4%
Relaxing physically	29	9.5%	30	9.9%	245	80.6%
Relaxing mentally	5	1.6%	2	0.7%	297	97.7%
Because sometimes I like being alone	23	7.6%	35	11.5%	246	80.9%
For environmental reasons	26	8.6%	34	11.2%	244	80.2%

For economic reasons	26	8.6%	85	28.0%	193	63.4%
To better explore the city's spaces	12	3.9%	14	4.6%	278	91.5%
For political reasons	56	18.4%	114	37.5%	134	44.1%
For social reasons	41	13.5%	44	14.5%	219	72.0%
Lack of bike rack	21	6.9%	63	20.7%	220	72.4%
Weather	22	7.2%	67	22.0%	215	70.8%
Lack of physical conditioning	33	10.9%	185	60.9%	86	28.2%
Disrespect on the part of drivers	11	3.6%	25	8.2%	268	88.2%
Lack of incentive from the government for this type of leisure	27	8.9%	76	25.0%	201	66.1%
Not safe in traffic	10	3.3%	27	8.9%	267	87.8%
Many hills	22	7.2%	143	47.0%	139	45.8%
Lack of bicycle-related services	32	10.5%	90	29.6%	182	59.9%
Lack of bike lanes	10	3.3%	24	7.9%	270	88.8%

Source: Authors (2023).

Aiming to evaluate the reliability of the present study, that is, the consistency of the responses provided by the cyclists, the Cronbach's Alpha coefficient was calculated. According to Hair *et al.* (2009), an index greater than 0.600 is considered adequate to guarantee the validity of the data, since reliability varies between 0 and 1.

The results in Table 3 show that the scales used to measure the different dimensions of the study demonstrate satisfactory internal consistency, thus guaranteeing the reliability of the measurements obtained for each construct. The result reinforces the quality of the data collection instrument and the robustness of the research results.

Table 3: Reliability of the study, according to Cronbach's Alpha coefficient

Dimensions	Alfa Cronbach	No. of items
Social	0.819	8
Intellectual	0.881	8
Qualification	0.801	6
Inhibition	0.724	8
Motivations	0.791	5
Lack of motivations	0.748	9

Source: Authors (2023).

Aiming to evaluate the relationships between the study variables, the Spearman's rank correlation coefficient was calculated. According to Hair *et al.* (2009), Spearman's rank correlation coefficient is a non-parametric statistical measure that evaluates the monotonic relationship between two ordered variables. The coefficient varies between -

1 and 1, where -1 indicates a perfect inverse correlation, 1 indicates a perfect direct correlation, and 0 indicates no correlation.

As can be seen in Table 4, the "discouraging factors" present a significant positive correlation with the social dimension ($r = 0.550$, $p < 0.01$) and the intellectual dimension ($r = 0.485$, $p < 0.01$). The result indicates that greater lack of motivation is associated with higher levels of social and intellectual concern among the cyclists who make up the sample.

In addition, lack of motivations also present significant positive correlations with the dimensions of qualification ($r = 0.443$, $p < 0.01$) and inhibition ($r = 0.440$, $p < 0.01$). The results suggest that cyclists who experience more lack of motivation tend to have lower perceptions of qualification and higher levels of inhibition regarding the practice of recreational cycling. However, the dimension of discouraging factors does not present a significant correlation with the dimension of encouraging factors ($r = 0.249$, $p > 0.01$). The result indicates that lack of motivations and motivations can be considered as independent factors in the context of recreational cycling.

Table 4: Spearman correlations and the lack of motivations dimension

	Average	Social	Lack of motivations	Intellectual	Qualification	Inhibition	Motivations
Social	2.610	1.000					
Lack of motivations	2.800	0.550	1.000				
Intellectual	3.280	0.485 **	0.148**	1.000			
Qualification	3.600	0.443**	0.760	0.476**	1.000		
Inhibition	3.260	0.440**	0.188**	0.365**	0.395**	1.000	
Motivations	2.810	0.249**	0.237**	0.383**	0.251**	0.316**	1.000

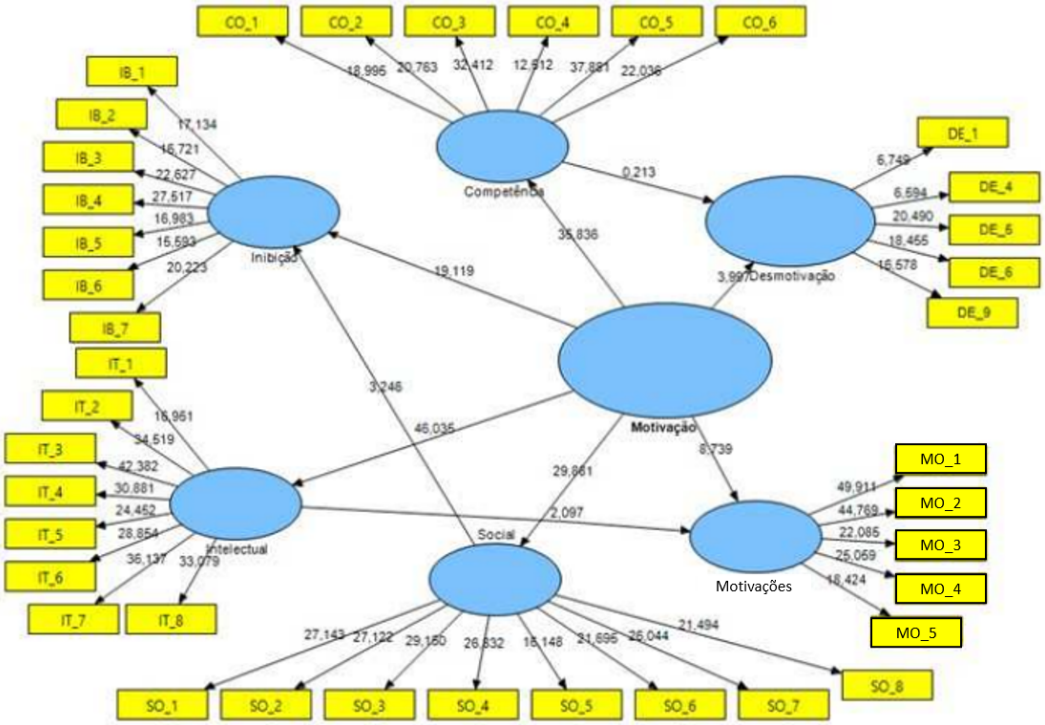
**. The correlation is significant at the 0.01 level (two-sided).
Source: Authors (2023).

Another technique used in the study was Structural Equation Modeling (SEM). According to Hair *et al.* (2009), this approach provides a direct way of dealing with multiple relationships simultaneously. Indeed, when analyzing Figure 1 it is possible to identify relationships between variables that were not observed in previous tests. From

the general relationship between motivations and specific dimensions, it is observed that the strongest relationship is with the intellectual dimension (0.824), indicating that a solid intellectual motivation is associated with stronger correlations with the other dimensions. On the other hand, the correlation between motivations as a whole and the lack of motivations dimension presents the weakest correlation (0.249), since both are mutually opposite.

With regard to lack of motivations, non-existent relationships were identified that were excluded from the analysis, such as "climate", "lack of physical fitness", "too many hills" and "lack of bicycle-related services".

Figure 1: Relationships between variables in Structural Equation Modeling (bootstrap)



Source: Authors (2023).

In order to evaluate the reliability and consistency of Structural Equation Modeling, the Composite Reliability and Cronbach's Alpha were evaluated. As stated by Ringle, Silva and Bido (2014), to ensure that the sample is free from bias and that the responses are reliable, Cronbach's Alpha values must be greater than 0.60 or 0.70 in

exploratory research, and Composite Reliability values must be between 0.70 and 0.90 to be considered satisfactory. These parameters are confirmed when analyzing Table 4, which attests to the robustness of the SEM presented previously.

Table 5: Analysis model consistency

	AVE	Composite Reliability	R Square	Alfa Cronbah
Qualification	0.541198	0.875798	0.584965	0.82904
Lack of motivations	0.513899	0.83811	0.067465	0.79061
Inhibition	0.42662	0.838265	0.509	0.774455
Intellectual	0.552964	0.907746	0.678498	0.883191
Social	0.449899	0.866407	0.527824	0.822585
Motivations	0.539232	0.852633	0.312533	0.78659

Source: Authors (2023).

Based on the data presented previously, the findings of this research can be summarized as follows:

- Recreational cycling brings together participants with a heterogeneous sociodemographic profile, with an emphasis on practitioners with ages varying between 20 and 39 years old, education at undergraduate level (complete/incomplete) and family income between 6 and 10 minimum wages.

- The purpose of staying active and relaxed physically and mentally constitutes the main motivations for practicing recreational cycling.

- The relationship with the surroundings is the main factor encouraging recreational cycling, while disrespect from drivers, the lack of adequate roads and unsafe traffic are the aspects that most discourage the activity.

- Discouraging factors exert more influence among cyclists who seek social interaction and personal development, and are less important for those who cycle to stay active and relaxed.

- Conversely, encouraging factors are more associated with discovery, curiosity, interaction and imagination.

- In other words: those who prioritize physical activity are less motivated, despite the existence of discouraging factors, while those who are interested in meeting people, developing friendships or expanding self-knowledge need more motivation to practice recreational cycling.

- Therefore, the key to understanding motivation in recreational cycling is to discover the importance that practitioners attribute to physical activity itself. The more relevant the factors related to the development of such skills, the more the individual values the importance of staying fit, relaxed and open to discoveries.

Thus, based on the results of this study, it is possible to reach three main conclusions:

1) The first is that the motivations of recreational cyclists are related to different dimensions, such as social interaction, learning, physical qualification and relaxation. The results show that cyclists seek to build friendships, meet people, develop social skills, explore the surrounding environment, satisfy curiosity, challenge physical skills and enjoy moments of relaxation.

2) The second conclusion is that recreational cyclists' lack of motivation also plays a significant role in their participation in cycling. Factors as lack of government incentives, lack of adequate infrastructure and concerns about the physical and social environment can affect cyclists' motivation. Understanding these lack of motivations is essential to identify obstacles to the practice of recreational cycling and seek solutions that encourage this activity.

Both the first and second conclusions of this work dialogue with a series of previous studies on recreational cycling, including the contributions of LaChausse (2006), Skar, Odden and Inge Vistad (2008), Faulks, Dodd and Ritchie (2008), Winters et al. (2011), Ho *et al.* (2015), Useche *et al.* (2019), Nazarudin, Nordin and Abdullah

(2020), Charreire *et al.* (2021), Oliveira *et al.* (2021), among others. Such research demonstrates the importance of factors such as a sense of happiness and belonging, personal development, social interactions, relationships with the environment and opportunities for relaxation among the motivations for recreational cycling.

3) For these reasons, the third conclusion of this study constitutes, possibly, the most relevant discovery in the dialogue with previous research. It provides how motivation for physical activity plays a central role in the relationship with different aspects of human behavior in the practice of recreational cycling. The link between the qualification and lack of motivation dimensions suggests that, as individuals feel more capable, they can face challenges that eventually demotivate others. On the other hand, those who cycle for other purposes are more subject to discouraging factors, requiring greater incentive to practice the activity.

This finding attests to the importance of taking into account, in the context of motivations for recreational cycling, the interest that the individual shows in developing physical fitness, improving their skills and staying in shape. Diagnosing motivations is fundamental to understanding cyclists' engagement and can contribute to the development of strategies to promote and encourage recreational cycling. After all, choices of an individual are directly linked to the satisfaction provided by the respective activities.

Final Considerations

In short, this study contributes to the understanding of the motivations and lack of motivations of recreational cyclists, providing elements of reflection for the development of strategies to promote recreational cycling and public policies related to urban mobility.

In the academic context, the implications of this study are relevant to the fields of urban planning, communication, sport and leisure. The results provide clues about the motivations and lack of motivations of recreational cyclists, contributing to theoretical and empirical knowledge in this area. Furthermore, the use of quantitative methods demonstrates the feasibility of applying statistical techniques to analyze data related to human behavior.

At the managerial level, the implications of this study are relevant for communication managers and urban planners who wish to promote the use of bicycles as a means of transport and leisure. The results highlight the importance of investing in adequate infrastructure, such as expanding the cycling network and creating publicity campaigns that promote the use of bicycles. Not to mention that they point out the relevance of certain factors that encourage and discourage cycling.

Finally, it should be noted that the present work has some limitations. The research focused on cyclists' motivations and lack of motivations, failing to explore aspects of the relationship between cycling and urban mobility. Therefore, it is suggested that future investigations consider new variables related to the daily use of bicycles, which would complement the understanding of the topic.

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