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PREVALENCE OF ACTIVE TRANSPORT USE AND FACTORS CONDITIONING IT

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Abstract

Context/Purpose. The importance of physical activity in achieving the goals of sustainable development is recognized, but there is still a lack of research that analyzes the factors that help to explain a person's behavior related to the use of active transport (AT; all forms of human travel by non-motorized means). The aim of this study is to determine the prevalence of AT use and the individual factors that are associated with it among young Lithuanian adults. Methods. 250 respondents participated in the study. AT prevalence was measured by item based on Stages of Change model and identified the proportion of people in each of the stages of change in terms of AT. Theory of Planned Behavior-based questionnaire was used to identify attitudes, subjective norm, perceived behavioral control and intention to use AT. Environmentally friendly attitudes were measured by the Sustainability Consciousness Questionnaire. Results. It was found that 12% of the respondents prefer AT when choosing a mode of travel and do so regularly. Unemployed and employed people more often regularly use AT than students and those on paternity leave ($\chi 2=29.196$; $p<.05$); respondents who are single choose AT more often than those with a spouse or partner ($\chi 2=10.901$; $p<.05$); respondents who have their own scooter use AT more often than those who do not ($\chi 2=17.561$; $p<.05$). Significant relationships were found between greater involvement in AT and attitudes favorable to AT ($r=.170$, $p<.05$), attitudes favorable to environmental protection ($r=.134$; $p<.05$), subjective norms regarding AT ($r=.159$; $p<.05$), perceived behavioral control ($r=.351$; $p<.05$) and intention to use AT ($r=.445$; $p<.05$). Interpretation. The increasing awareness of the health and environmental benefits of AT encourages people to replace motor vehicles with AT. Conclusion. The use of AT is associated with favorable attitudes towards sustainable development, subjective norm, perceived behavioral control.

Key words: sustainable development, active transport, active transportation, physical activity.

Introduction

Relevance of the topic. The importance of physical activity in achieving sustainable development goals is recognized. Active transport (AT) is indicated as one of the most promising ways to develop a physically active society (Salvo, 2021). It is indicated that the most used forms of physical activity, i.e. walking, cycling, scootering, are easily accessible and easy to use for everyone, so they can help integrate physical activity into people's daily lives and even effectively replace short trips by car (Allen, Nolmark, 2022).

The importance of physical activity in achieving the goals of sustainable development was also recognized by the World Health Organization, which in 2018 published the physical activity action plan "Global action plan on physical activity 2018–2030: more active people for a healthier world", which stated that physical activity can help achieve a more harmonious, fairer, more sustainable world (World Health Organization, 2019). In the context of sustainable development, AT is indicated as a cost-effective means of implementing the goals of sustainable development. Researchers investigating the link between sustainable development and AT have found that a society using AT gets not only benefits from health benefits from increased physical activity, but also additional benefits such as reduced use of fossil fuels, cleaner air, less congestion, safer roads (Dai et al., 2020; Salvo et al., 2021).

Problem Statement. Factors determining the use of AT are divided into psychosocial and environmental factors. Adapting the environment to the use of AT is very important. Despite the perfect infrastructure, person still might not be willing to use AT. It is very important to identify non-environmental factors that can motivate the use of AT. It was determined that besides individual factors like education, financial status, and others, according to Theory of Planned Behavior (TPB) attitudes, subjective norm and perceived behavioral control towards certain behavior are also important. They serve as predictors of intention to perform a behavior. According to scientists Atasoy et al., (2010), psychosocial factors have a great importance in the choice of transport, especially in societies where citizens can choose the means of transport.

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Table 1

Involvement in using active transport

Variable	Involvement in active transport					Chi-Square Tests
	Do not plan use AT in the next 6 months	Intend to use AT in the next 6 months	Use AT but irregularly	Start use AT in the last 6 month	Regularly use AT	
Percent						
Unemployed	33.3	**50**	0	0	**16.7**	$\chi2$=29.196; df12; p<.05
Student	45.5	24.7	16.2	4.5	9.1	
Working	54.7	23.3	4.6	0	**17.4**	
On paternity leave	25	0	**50**	**25**	0	
Single	41.7	23.1	16.7	**6.5**	12	$\chi2$=10.901; df4; p<.05
With spouse or partner	52.8	25.4	9.2	**0.6**	12	
Have a scooter	32.4	21.6	10.8	2.7	**32.5**	$\chi2$=17.561; df4; p<.05
Don't have a scooter	50.7	24.9	12.7	3.3	**8.4**	
Volunteer	34.7	32.7	16.3	**8.2**	8.2	$\chi2$=10.146; df4; p<.05
Non- volunteer	51.1	22.4	11.4	**2.0**	12.9	

The purpose of the article. The aim of this study is to determine the prevalence of AT use and the individual factors that are associated with it among young Lithuanian adults.

Research objectives. To achieve the goal of this paper, the following objectives are set: to determine the prevalence of AT use; to determine the individual factors that are associated with AT use.

Methodology of investigation. 250 respondents participated in the cross-sectional study, 80% of them were women. The age ranged from 18 to 39 years old, an average age of 20.38 years. AT prevalence was measured by item based on Stages of Change model and identified the proportion of people in each of the stages of change in terms of AT (Hagger, Chatzisarantis, 2014). Theory of Planned Behavior-based questionnaire was used to identify attitudes, subjective norm, perceived behavioral control and intention to use AT (Ajzen, 1991). Environmentally friendly attitudes were measured by the Sustainability Consciousness Questionnaire (Gericke et al., 2019).

Results

Involvement in using active transport. It was found that 12% of the respondents prefer AT when choosing a mode of travel and do so regularly. 48% of respondents indicated that they currently prefer a car or public transport over an AT vehicle when choosing a vehicle and do not plan to change their behavior in the next 6 months. 24% of respondents, although currently choosing a car, plan to use AT more often for their mobility in the next 6 months. 12.6% use AT for mobility but do so irregularly. 3.4% regularly choose AT and started doing so in the last 6 months. The significant differences in involvement in AT were found between sociodemographic groups, owning a scooter and volunteering status (Table 1).

The relationships between the active transport and attitudes, subjective norms, perceived control, intention to use active transport. Significant relationships were also found between greater involvement in AT and attitudes favorable to AT attitudes favorable to environmental protection, subjective norms regarding AT, perceived control and intention to use.

Table 2

The relationships between the active transport ant attitudes, subjective norms, perceived behavioral control

Variable	Active transport (Pearson r)	Sig. (2-tailed)
Attitudes favorable to AT	0.170	0.007
Attitudes favorable to environmental protection	0.134	0.034
Subjective norms regarding AT	0.159	0.029
Perceived behavioral control	0.351	<.001
Intention to use AT	0.445	<.001

Discussion

The main objective of tris study was to determine the individual factors that are associated with AT among young Lithuanian adults. To achieve this goal TPB was used, which is cited as one of the most useful and commonly used theories of social cognition, helping to explain and predict people's environmental and health-friendly behavior (Ajzen, 1991). The results of the study showed that higher

AT use is significantly related to all TPB items i. e. attitudes favorable to AT and environmental protection, subjective norms regarding AT, perceived control and intention to use AT. The results of another recent study using the TPB questionnaire indicated that the strongest relationships were found between intentions to use bicycles and attitudes, subjective norms. The relationship between perceived behavioral control and intention to use a bicycle was not significant (Djokic et al., 2023). Attitudes and subjective norms were significantly related to the intention to allow children to use AT on a school trip in Forsberg et al., (2023) study.

A study by Zhang et al., (2020) intended to predict transport related cycling among Chinese students reported that intention to use AT had a direct effect on transport related cycling, while attitudes, subjective norms, and perceived behavioral control predicted cycling indirectly through intention. In a Swedish study, researchers Eriksson and Forward (2011) tried to explain the factors determining the intention to choose a mode of transport using the TPB and found that perceived behavioral control and subjective norms are the most important predictors of the intention to use a bicycle for transport purposes. Hagger and Chatzisarantis, (2014), conducted a meta-analysis on the theories of planned behavior and reasoned behavior in physical activity and found that attitudes and, to a lesser extent, perceived behavioral control, were key factors in shaping intentions to participate in physical activity. In the conclusions, the authors indicated that interventions based on improving attitudes towards physical activity can lead to an increase in physically active behavior.

It is emphasized that promoting AT must improve the health literacy of the entire population, emphasizing the benefits of AT for health, social well-being, and environmental protection. Increasing awareness of the health and environmental benefits of AT encourages people to replace motor vehicles with AT, especially during short trips.

Conclusions

The use of AT is associated with favorable attitudes towards sustainable development, subjective norms, perceived behavioral control and intention to use AT. The increasing awareness of the health and environmental benefits of AT encourages people to replace motor vehicles with AT.

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ПОШИРЕНІСТЬ ВИКОРИСТАННЯ АКТИВНОГО ТРАНСПОРТУ ТА ФАКТОРИ, ЩО ЙОГО ЗУМОВЛЮЮТЬ

Анотація

Актуальність теми. Визнано важливість фізичної активності у досягненні цілей сталого розвитку. Активний транспорт (АТ) визначається як один із найбільш перспективних способів формування фізично активного суспільства (Salvo, 2021). Зазначається, що найбільш поширені форми фізичної активності, такі як ходьба, їзда на велосипеді, використання самоката, є легкодоступними та простими у використанні для всіх, тому вони можуть сприяти інтеграції фізичної активності у повсякденне життя людей і навіть ефективно замінювати короткі поїздки автомобілем (Allen, Nolmark, 2022). Важливість фізичної активності для досягнення цілей сталого розвитку також була визнана Всесвітньою організацією охорони здоров'я, яка у 2018 році опублікувала план дій щодо фізичної активності «Глобальний план дій з фізичної активності 2018–2030: більш активні люди для здоровішого світу». У ньому зазначено, що фізична активність може допомогти досягти більш гармонійного, справедливого та сталого світу (World Health Organization, 2019). У контексті сталого розвитку АТ визначається як економічно ефективний засіб реалізації цілей сталого розвитку. Дослідники, які вивчають зв'язок між сталим розвитком та АТ, встановили, що суспільство, яке використовує активний транспорт, отримує не лише користь для здоров'я завдяки підвищенню рівня фізичної активності, але й додаткові переваги, такі як зменшення використання викопного палива, чистіше повітря, менша завантаженість доріг, безпечніші дороги (Dai et al., 2020; Salvo et al., 2021). **Постановка задачі**. Фактори, що визначають використання активного транспорту (АТ), поділяються на психосоціальні та фактори навколишнього середовища. Адаптація середовища до використання АТ є дуже важливою. Проте, навіть за наявності ідеальної інфраструктури, людина може не бажати використовувати АТ. Важливо визначити неекологічні фактори, які можуть мотивувати використання АТ. Встановлено, що, крім індивідуальних факторів, таких як освіта, фінансовий стан та інші, відповідно до Теорії запланованої поведінки (ТРВ), на ставлення, суб'єктивну норму та сприйнятий контроль поведінки щодо певної поведінки також впливають значущі фактори. Вони слугують предикторами наміру здійснювати певну поведінку. За даними вчених Atasoy та ін. (2010), психосоціальні фактори мають велике значення при виборі транспорту, особливо в суспільствах, де громадяни мають можливість обирати засіб пересування. **Задачі дослідження.** Для досягнення мети статті поставлені такі завдання: визначити поширеність використання АТ; визначити індивідуальні фактори, пов'язані з використанням АТ. **Методологія.** У поперечному дослідженні взяли участь 250 респондентів, 80% з яких були жінками. Віковий діапазон становив від 18 до 39 років, середній вік — 20,38 років. Поширеність використання АТ вимірювалася на основі моделі Стадій змін, що дозволила визначити частку людей на різних стадіях змін щодо використання АТ (Hagger, Chatzisarantis, 2014). Для виявлення ставлення, суб'єктивної норми, сприйнятого поведінкового контролю та наміру використовувати АТ використовувався опитувальник, заснований на Теорії запланованої поведінки (Ajzen, 1991). Екологічно свідоме ставлення вимірювалося за допомогою опитувальника щодо усвідомлення сталого розвитку (Gericke et al., 2019).

Ключові слова: активний транспорт, активне пересування, фізична активність.

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