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## **AN EXAMINATION OF OUTDOOR RECREATION PARTICIPATION CONSTRAINTS AMONG RURAL AND URBAN COMMUNITIES**

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### **Abstract**

This study examined the relationship between motivational and constraint factors of outdoor recreational participation among rural and urban communities. Questionnaires were used as the main instrument of the research and were distributed to a number of 384 respondents who were among individuals living in rural and urban areas. Based on the Self-Determination Theory (SDT), the analysis revealed that the RII score for each outdoor recreational engagement motivational factor was at the highest level, as the p-value of the index obtained for each item was more than 0.50. The analysis also revealed that the primary constraint for outdoor recreation participation among both sample studies was the factor of time with a value of ( $P < .05$ ). As statistical findings of the study indicated how constraint factors could influence motivational factors in the participation of outdoor recreation, it is crucial that future studies also look into constraint issues of respondents to identify and explore motivational factors in the field of rural and urban planning.

**Keywords:** Outdoor Recreation, Constraints, Rural, Urban

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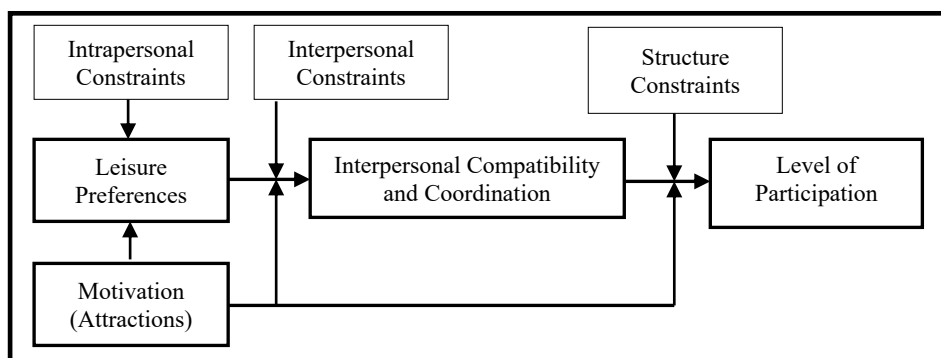
## **INTRODUCTION**

The involvement of nature-based recreation and green landscapes has shown improvement in recent decades and is expected to continue to increase (Zeidenitz et al., 2017). This situation explains that outdoor recreational activities have become part of the culture of society (Cordell, 2008) and are often used as a measure in assessing the social well-being of a community (Godbey et al., 1998; Tinsley et al., 2002; Ghimire et al., 2014). Therefore, outdoor recreation is essential and beneficial in people's lives. However, some studies have found that certain groups in the community are less likely to participate in outdoor recreation (e.g. ethnic minorities, women, rural residents, and the elderly) less likely/willing to participate in outdoor recreation than their other counterparts (Bialeschki, 1999; Crespo et al., et al., 2000; Sasidharan, 2001; Kundziņa & Grants, 2014). In other words, the group faced more constraints engaging in outdoor recreational activities than their counterparts (e.g. men, urban areas, youth/teens, and majority groups). Studies analysing the constraints and factors of outdoor recreational participation have started since the 1970s and were significantly expanded in the 1990s (Crawford et al., 1991; Henderson, 1991), a significant field among outdoor recreation researchers. In general, impediments to outdoor recreational participation refer to factors limiting outdoor recreational participation among the community, using recreational facilities services (parks and programs), and enjoying activities (Scott et al., 2004).

Researchers have long identified that each constraint affects outdoor recreational participation differently. The constraints factor is also among the researchers' assumptions and experiences felt by individuals limiting outdoor recreational participation and hindering or prohibiting pleasure/enjoyment in outdoor recreation (Jackson, 2000). Assuming this, the constraints factor is a limiting factor that hinders an individual's desire to fulfil leisure. By looking at it from a broader perspective, outdoor recreation constraints are an explanation for a factor that can prevent a person from participating in recreational activities, reduce the expected benefits as a result of the activities performed, forms of unresolved constraints to recreational participation in leisure, no participation will be done, and serve to reduce participation in different ways (Jackson et al., 1993; Johnson et al., 2001; Scott & Jackson, 2005; Fredman & Heberlein, 2014) which indirectly limits individual satisfaction (Jackson, 1988). Crawford & Godbey (1987) argues by describing constraints influencing participation and involving ownership of leisure options. Thus, the focus of the study needed to be more on discussing the existence of constraint factors. These constraints factors have indirectly generated new insight into aspects of leisure tenaciously considered to have been well understood, such as outdoor recreational engagement, motivation, satisfaction, and conflict (Jackson, 2000).

## LITERATURE REVIEW

Outdoor recreation participation is generally motivated by various factors, primarily meeting the leisure time owned (Kondric et al., 2013). Motivation can be seen as an internal force that influences an individual to act in a way that helps them achieve a specific desired experience or outcome (Driver & Knopf, 1977; Whiting et al., 2017), and has an essential position as it helps to determine why individuals engage in recreational behaviour, the way individuals do, understand the benefits of participation and serves as basic knowledge in assisting the planning process and environmental management (Ab Dulhamid et al., 2023). Leading researchers have done studies to identify motivating factors for travel generation and recreational participation (e.g., Cooper et al., 1998). Motivation refers to forces that motivate and direct human behaviour (Iso-Ahola, 1999; Deci & Ryan, 1985). The motivation factor is the will or drive and emotion that leads someone to act and is closely related to the emotion and feel positive if their wishes and desires are achieved, and this will be harmful if otherwise (Ab Dulhamid et al., 2022). For Jackson (2000), the power of motivation for outdoor recreational participation has encouraged individuals to negotiate on inherent constraints factors. Unlike what is described by (Carroll & Alexandris, 1997; Hubbard & Mannell, 2001; Alexandris et al., 2002), most of each existing study that discussed constraints and motivations towards outdoor recreational participation were considered separate and unrelated variables. Carroll & Alexandris (1997) found that concentration correlates positively with motivation. With that in mind, they make the case that 'highly motivated individuals are less likely to feel high levels of obstruction and tend to participate in recreational activities. Highly motivated people strive to overcome constraints and participate more often in recreational activities.



**Figure 1:** A Hierarchical Model of Leisure Constraints  
Sources: Crawford et al., 1991; Jackson, Crawford & Godbey, 1993,

The study of constraints is not a new phenomenon and has been the topic of many studies over the past few decades. It is considered a factor limiting recreational participation (Fredman & Heberlein, 2014) (See Figure 1). Crawford & Godbey (1987) divided each constraint factor into three main categories based on how it affects the relationship between priority and participation (Carroll & Alexandris, 1997; White, 2008), and the categories in the model are 'intrapersonal constraints' (as individual psychological qualities that influence the development of psychological leisure – stress, depression, shame), 'interpersonal constraints' (as social factors that influence the formation of leisure choices – the absence of friends, friends), and 'structural constraints' or also known as 'intervening' (consisting of factors that intervene in the development of time choices leisure and participation – economy, time, and accessibility). Based on the model, Jackson et al. (1993, p.3-4) argued as follows:

- i. *Intrapersonal Constraints*: Leisure options are formed when interpersonal constraints do not exist, or its effects have been encountered through some combination of privilege and the implementation of human will;
- ii. *Interpersonal Constraints*: Individuals are likely to encounter constraints at the interpersonal level. It is only when this type of constraint has been overcome (if appropriate to the activity) and faced with structural constraints; and
- iii. *Structural Constraints*: It will result in no participation or the existence of negotiations through structural constraints.

Models such as in Figure 1 have explicitly suggested that the results of responses to constraints to outdoor recreational participation can be seen as a function of the interaction between constraints and motivations for each type or category of constraints (Fredman & Heberlein, 2005). Individual participation depends on trying to overcome each constraint rather than at a time when there are no constraints (although this may be relevant for a particular person). In negotiations to constraints, each participation can be modified (according to individual suitability) rather than wholly ignored. The best approach to overcoming the constraints of leisure participation is to refer to some form of strategy other individuals have used in exhibiting 'proactive responses' to constraints. On the other hand, if the individual accepts each obstacle and chooses not to participate in leisure activities (fulfilling the requirements), it is considered a 'reactive response' (Jackson et al., 1993). From different perspectives, many studies on outdoor recreational participation's constraints are more descriptive than explanatory, with minimal theoretical development (Walker & Virden, 2005; Scott & Jackson, 2005). Walker & Virden continued the discussion by pointing out some of the constraints factors that received the highest ratings on the study scale, which included lack of time, distance to recreational resources,

overcrowding, lack of information, cost, family commitment, and public facilities are not unkempt, deteriorating into disrepair, and poorly maintained (Ahmad et al., 2022). Constraints to outdoor recreation are similar to other outdoor activities, but some aspects, such as lack of time, are likely to affect outdoor recreation substantially. This is because it requires a commitment to travel time to reach an undeveloped area. Thus, White (2008) classified constraints as having a direct negative impact on outdoor recreational participation. However, the highly motivated are still more likely to overcome challenges and participate actively (Samdahl & Jekubovich, 1997). For each type of constraint that exists, the result of a response to an outdoor recreational constraint can be seen as a function of the interaction that occurs between the constraints and the motivation itself (Fredman & Heberlein, 2014). A robust motivating factor in the self encourages the community to participate in recreation and negotiate constraints factors (Jackson, 2000).

## **CONSTRAINTS THEORY**

The study of constraints is not a new phenomenon. Budget constraints are always the basis of the analysis in the economic field and have significantly impacted countries and societies. However, research on constraint factors began in the 1980s, and recreational researchers (not economists) developed a broader theory of constraints and how such constraints work to limit the participation of recreational activities (Fredman & Heberlein, 2005). The development of these models is an approach to address issues related to participation and obstruction in outdoor recreational activities (Jackson, 1988).

In a study related to constraints, Crawford et al. (1991) integrated types of constraints into a hierarchical model, and a study by Jackson et al. (1993) developed a series of recommendations on how individuals can reduce constraints, as in Figure 1. Intrapersonal constraints are defined as individual psychological states and traits such as stress, anxiety, attitudes, and perceptions of self-skills that may prevent an individual from engaging in outdoor recreational activities. While for Interpersonal constraints are closely related to social interaction with family members, friends, etc., for example, when couples have differences of opinion in terms of their choice of recreational activities. As for the structure constraints, they include economic resources, time availability and accessibility. Thus, recreational participation is overcoming intrapersonal, interpersonal, and structural constraints. Overall, the literature study explains that constraint factors reduce recreational participation in various ways. Perceptions of high costs associated with participation were significantly lower in some of the study findings (e.g., Jackson, 2000; Kay & Jackson, 1991; Shaw et al., 1991). The results of other studies found that the reduction in outdoor recreational participation was due to growing age factors (Alexandris & Carroll, 1997) and low health levels (Shaw et al., 1991).

## **METHODOLOGY**

The focus group from rural and urban areas was determined using Raosoft, Taro Yamane and Calculator.net online sample size calculator. Following the appropriate justification, which is a 95% of confidence level and 5% margin error, the recommended size for the study was 384 (based on the population size of 800 700 (the Ipoh population in 2020). For this study, each respondent was involved in outdoor recreational activities, residing in Ipoh and the surrounding areas. The selection of respondents from these two areas aims to identify motivational and constraint factors that encourage outdoor recreation participation.

## **DATA COLLECTION**

The study used a quantitative approach as the primary attribute to get the correct answers to motivational factors for outdoor recreational participation. The quantitative approach could verify and process information in detail and provide insights outdoors to understand better the phenomenon being studied. In addition, the approach to this method can provide some explanation that may help verify the accuracy and validity of the data that has to do with specific aspects under study. For Patton (2002), this method was also chosen because it allowed researchers to ask questions, understand, and investigate more deeply to discover the reasons for participation motivation and know the constraints. The study participants were recreation users from rural and urban areas aged 18 and above. To select the potential respondents, Convenience Random Sampling was applied to obtain the number of respondents needed in the study. In carrying out this study, the process of collecting study data is to use a form of questionnaire or 'self-administered questionnaire'. Each question in this questionnaire is open and closed, using bilingual Malay and English. These two languages provide understanding and convenience to the respondents to complete the questionnaire, which is done online (Google Form). This questionnaire contains 25 questions and takes 10-15 minutes to complete. Analyses in this paper focused on a subset of data collected. Specifically, survey items focused on constraints to outdoor recreation participation, namely the time factor, economic factor, lack of interest, facilities factor, and individual psychology.

## **ANALYSIS**

Linear regression analysis measures whether there is an influence or how much influence and extent the impression between the two changes, independent variables, on dependent variables, is expressed in mathematical equations (regression) (Pallant, 2005). Multiple linear regression analysis is used because it involves more than one non-leaning changer (obstruction) against the leaner (motivation). The adaptation of the regression analysis for this study is to identify the most influential barrier factors to outdoor recreation engagement for rural and urban communities as used by several outdoor recreation studies (Carroll &

Alexandris, 1997; Johnson et al., 2001; Scott et al., 2004; Alexandris & Stodolka, 2004; Kara & Demirci, 2010).

## FINDINGS & ANALYSIS

### 1. Motivation for Outdoor Recreation Participation Among Rural and Urban Communities

**Table 1:** Motivation for Outdoor Recreation Participation

Rank/ Area	Rural Area		Urban Area	
	Item Scale	RII	Item Scale	RII
1	<i>Enjoy the peaceful environment</i>	0.861	<i>To relax the mind</i>	0.876
2	To relax the mind	0.86	Outdoor activities with the family	0.872
3	Outdoor activities with the family	0.857	Enjoying natural environment	0.87
4	Enjoying natural environment	0.855	Improve personal health/fitness	0.867
5	Improve personal health/fitness	0.854	Staying physically active	0.862
6	Staying physically active	0.852	Enjoy the peaceful environment	0.861
7	To relax	0.851	To relax	0.858
8	Escape from routine activities of life	0.842	Engage with passive activities (light)	0.852
8	Engage with passive activities (light)	0.842	Exploring the environment	0.847
8	Exploring the environment	0.842	Increase the level of self-confidence	0.835
8	Increase the level of self-confidence	0.829	To be with people of similar interests	0.834
11	To be with people of similar interests	0.817	Engage with active activities (heavy)	0.831

As shown in Table 1, the RII score value for all motivational factors of outdoor recreational engagement is at the highest level, as the value of each index of the RII score obtained for each item is more than .50. The acquisition of the RII score proves that there is a difference in motivational factors between the rural community and the city itself. From the point of view of rural areas, the motivation factor that obtained the highest RII value is item 'p', which is the desire to 'enjoy the peaceful surrounding area' with an RII value of 0.861. A peaceful

surrounding usually refers to a natural environment that is a source of recreation (for example, forests, lakes, rivers, etc.), free from any form of pollution, and this element is a space only found in rural areas. The availability of natural recreational resources, in addition to high opportunities for participation, are among the reasons that are likely to make item 'p' achieve a high-value score among rural communities. This finding has proven that the natural environment is the primary motivation for the community's recreational participation (Skar et al., 2008; Stewart et al., 1996; Walker et al., 2010; Whiting et al., 2017).

## 2. Constraints for Outdoor Recreation Participation Among Rural and Urban Communities

Table 2 summarises the regression model for the constraint's factors to recreational participation for communities in rural and urban areas. Next, the analysis summarised the regression to the entire constraints factor. Table 5.28 shows a positive linear relationship between the constraints and motivation factors for rural and urban areas with ( $R=.313a$ ) and ( $R=.373a$ ), respectively. The barrier factor (independent variable) explains 9.8% ( $R^2 = .098$ ) of rural and 13.9% ( $R^2 = .139$ ) of the variance inherent in the type of dependent variable (motivational factor). Meanwhile, the remaining value of 90.2% is for rural areas, followed by 86.1% for urban areas, which are influenced by other factors that prevent the participation of outdoor recreation.

**Table 2:** Summary of the Regression Model of Constraint Factors to Outdoor Recreation Participation

Model Summary				
Location	<i>R</i>	<i>R Square (R<sup>2</sup>)</i>	<i>Adjusted R Square (R<sup>2</sup>)</i>	<i>Std. Error of the Estimate</i>
Rural Area	.313 <sup>a</sup>	.098	.075	.762
Urban Area	.373 <sup>a</sup>	.139	.115	.584

The adjusted R-value from the study findings is at .075 or 7.5% (rural) and .115 or 11.5% (urban). The difference in R<sup>2</sup> and Adjusted R values for rural areas is .023 or 2.3% (rural) and .024 or 2.4%. In addition, the value of the Standard Error of the Estimate (SEE) is .762 (rural) and .584 (urban), which represents that the smaller the SEE value, the better because the model will predict the variable more accurately. This conclusion is made at a significant level  $\alpha=.05$  (5%) or at a confidence level (95%). While in Table 3 shows the results of ANOVA analysis where the statistically significant value obtained for rural areas is .001, followed by urban .000, which is smaller than the statistical significance level that has been set, which is  $p<.05$ . Overall, this shows that there is a significant statistical difference between dependent and independent variables for rural and urban areas.



**Table 3:** ANOVA Regression Analysis of Constraint Factors to Recreational Participation

Location	Model	Sum of Squares	df	Mean Square	F	Sig.
Rural Area	Regression	12.208	5	2.442	4.203	.001 <sup>b</sup>
	Residual	112.113	193	.581		
	Total	124.321	198			
Urban Area	Regression	9.878	5	1.976	5.790	.000 <sup>b</sup>
	Residual	61.081	179	.341		
	Total	70.959	184			

To complete the regression analysis, Table 4 as a whole show that four variables for rural areas have statistically insignificant values, namely 'economic factor', 'lack of interest factor', 'facility factor', and 'psychological/individual factor'. With that, it can be explained as an independent variable factor that does not significantly affect the motivation of outdoor recreation participation in rural and urban communities. In addition, it is considered as a factor that does not affect the motivation of outdoor recreation participation because the value for each factor is greater than  $p=.05$ , with each 'economic factor' ( $p=.415$ ), 'less interested factor' ( $p=.366$ ), 'facility factor' ( $p=.157$ ), and 'psychological/individual factor' ( $p=.602$ ).

**Table 4:** Test Regression Coefficient for Outdoor Recreation Participation (Constraints Factors)

Location	Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
Rural	Variables	3.169	.235	-	13.496	.000
	<b>Time</b>	<b>.252</b>	<b>.073</b>	<b>.287</b>	<b>3.456</b>	<b>.001</b>
	Economy	-.057	.069	-.080	-.818	.415
	Less interested	-.065	.072	-.091	-.906	.366
	Facility	.085	.060	.133	1.421	.157
	Psychology/ Individual	.040	.077	.053	.523	.602
Location	Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
Rural	Variables	3.431	.185	-	18.530	.000
	<b>Time</b>	<b>.238</b>	<b>.070</b>	<b>.354</b>	<b>3.391</b>	<b>.001</b>
	Economy	-.071	.065	-.139	-1.086	.279
	Less interested	-.117	.070	-.226	-1.669	.097

Facility	.042	.063	-.077	-.665	.507
<b>Psychology/ Individual</b>	<b>.189</b>	<b>.075</b>	<b>.334</b>	<b>2.527</b>	<b>.012</b>

Table 4 shows that four variables for rural areas have insignificant statistical values, i.e. 'economic factors', 'less interested factors', 'facility facilities factors', and 'psychological/individual factors'. Therefore, these four non-dependent variable factors do not significantly impact the motivating factors of outdoor recreational participation towards rural and urban communities. Hence, it is considered to not contribute to the motivating factor of outdoor recreational participation as the value of each factor is greater than  $p=.05$ , with 'economic factors' ( $p=.415$ ), 'less interested factors' ( $p=.366$ ), 'facility factor' ( $p=.157$ ), and 'psychological/individual factors' ( $p=.602$ ) respectively. However, there is little difference in urban areas where three factors indicate little statistical value, i.e. 'economic factors', 'less interested factors', and 'facility facilities factor'. Therefore, these three non-dependent variable factors do not significantly impact the motivating factors of outdoor recreational participation towards rural and urban communities. Thus, it can be concluded that the three factors above do not contribute to the motivating factors of outdoor recreational participation as the value of each element is higher than  $p=.05$ , with 'economic factors' ( $p=.279$ ), 'less interested factors' ( $p=.097$ ), and 'facility facilities factor' ( $p=.507$ ) respectively.

Overall, findings show that two social factors reflect a fundamental influence on the participation of outdoor recreation. First, it can be seen that the factor of time contributes to a statistically significant result on the participation of outdoor recreation for both rural and urban communities with a value of  $p<.05$ . This indicates that time is the primary constraint for outdoor recreation participation for both the communities (rural  $t=3.456$ ,  $p<0.001$ ), (urban  $t=3.391$ ,  $p<0.001$ ). Secondly, findings also show psychological/individual factors as another main inhibiting factor to the participation of outdoor recreation. However, this hindering factor is related only among urban communities with a statistically significant value of ( $t=2.527$ ,  $p<0.012$ ).

The results above prove that intrapersonal constraints such as fear of injury, threat of crime, absence of recreational friends, and entrance fees are some of the potential psychological/individual factors that may prevent communities from involving themselves in outdoor recreational activities. According to McClellan & Medrich (1969), these factors can be classified as latent demand or demand for facilities that the public cannot access to attend. However, for other factors such as the economy, lack of interest, and the level of facilities, statistical findings show that there is insignificant value in preventing the participation of outdoor recreation. Based on these findings, although studies on motivational factors have been carried out on various subjects such as types of activities, location of activities, ethnic differences, gender, etc., the time factor

is consistently the main obstacle to individual participation in outdoor recreational activities (Carroll & Alexandris, 1997; Johnson et al., 2001; Scott et al., 2004; Alexandris & Stodolka, 2004; Kara & Demirci, 2010). This result can be seen from a positive perspective, where the participation of outdoor recreation continuously and regularly among individuals and communities is significant to equip themselves with discipline, knowledge, and good moral values in spending quality free time and skills for a quality continuous life.

## **DISCUSSION**

Rural and urban areas have different lives and unique spaces, indirectly giving birth to different and unique lifestyles in nature that can be reflected through outdoor recreation participation (Wang et al., 2011; Chen et al., 2017). The participation of rural and urban communities in outdoor recreation activities is spatially clustered, where each activity takes place in facilities such as public parks, neighbourhood grounds, and open spaces. However, each individual's participation faces obstacles to routine activities, and they are becoming more common and part of life. In practice, individuals, communities, and systems are challenged to deal with each obstacle (Palacios Abad et al., 2023). Motivational factors and constraints to recreational participation for each individual may change according to the level of experience and time (that is, how they respond to the activity either during or after it (Ewert et al., 2020)). The external constraints to recreational participation identified in this study are intrapersonal, interpersonal, and structural. Common constraints that occur in outdoor recreation participation are lack of time, lack of facilities, lack of financial resources, and lack of interest (Crawford & Godbey, 1987; Holt et al., 2019; Lovelock et al., 2016; Chick et al., 2022). Each of these constraints is capable of preventing engagement, and on the other hand, these constraints are likely to make engagement more complicated but still have the opportunity to do so. Time constraints are intrapersonal (for example, the busyness of managing a family), and sometimes, at the same time, it becomes structural barrier (for example, a recreation room that operates according to a specific time does not coincide with the free time obtained). This requires individuals to negotiate the time barrier so that it does not continue to hinder recreational participation. For Scott (1991), although the time factor almost causes no participation in outdoor recreation activities, each individual may need to strengthen their will to engage in outdoor recreation by changing their participation or replacing recreational activities with other alternatives. When individuals face time constraints, individuals can increase work efficiency or reduce the time spent on other commitments (Kay & Jackson, 1991).

As a result, even if constraints to recreational participation result in non-participation, individuals can encourage/evoke recreational participation through negotiation and substitution (Crawford et al., 1991; Jackson et al., 1993; Kay &

Jackson, 1991; Scott, 1991). Classification into three categories of constraints is widely accepted in identifying how they affect outdoor recreation participation (Crawford & Godbey, 1987; & Stodolska et al., 2013). Intrapersonal constraints include psychological conditions such as skills, abilities, subjective evaluations of appropriateness and availability of opportunities. Interpersonal constraints are related to interpersonal interactions, including constraints such as finding a partner. Structural constraints are intervening constraints between preference and engagement. This type of constraints includes factors related to the lack of resources needed for engagement (Stodolska et al., 2013). Several studies have suggested that intrapersonal constraints are the most potent predictors of commitment to outdoor recreation participation (Anaza & McDowell, 2013; Chick et al., 2022).

## **CONCLUSION**

This research seeks to build on the existing constraints literature study by examining every change and stability of constraints in recreational areas of rural and urban communities. Each constraint element has been identified as a cause that can prevent participation in outdoor recreational activities and thus reduce satisfaction and achievement outcomes (Jackson, 1988; White, 2008). Constraints to outdoor recreational participation are factors that influence the formation of individual leisure time and recreational activity participation (Jackson, 1990; Jackson & Scott, 1999; Xie & Ritchie, 2019) and can act as a constraint to recreational activity participation. The identification of motivational factors and obstacles includes several items that aim to assess as many 'reasons' that lead to engagement, which are obtained from the literature on motivation based on psychological theory and the hierarchical model of obstacles. Recreational motivation is an essential concept in recreational participation. If different individuals respond similarly to stimuli, then it does not necessarily lead to the concept of motivation. However, on the other hand, if individuals are motivated to engage in outdoor recreation for different reasons, then studying these different reasons and their origins is central to understanding recreational behaviour and the effective management of leisure time (recreation programs). Differences in stimulation and recreational behaviour will provide a clear understanding of the achievement and satisfaction achieved by each individual. Determining the goal of outdoor recreation participation guides each achievement and satisfaction of the result of participation.

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