

## Article

# Factors Influencing Motives for Sport Participation of People with Physical Disabilities in Madrid: Reflections to Promote an Active Living

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**Abstract:** People with disabilities (PWD) present a much lower physical activity (PA) and sport practice rate than those who do not present this condition. The aim of this study was to analyze the reasons for physical sport practice in a sample of residents of the community of Madrid with physical disabilities in order to provide suggestion to promote active living from results. Participants were 117 physical activity practitioners (33% women and 67% men) between 15 and 74 years old with certified physical disability greater than 33%. The *Motives for Physical Activity Measure - Revised questionnaire* (MPAM-R) was administered online through disability service providers' collaboration. “Fitness” and “enjoyment” reasons were the dimensions that scored the highest, while the “appearance” and “disability” dimensions were the least valued. Mostly no significant differences were found regarding gender, age, education level, percentage of disability or possession of a sport license. However, when significant differences were found the mostly depended on the practice of sports and PA and interest in sports and PA, followed by the possession of a sports license, with occasional differences by the educational level of respondents, their age or their gender. Understanding (physical) disability from and individual/personal level, but also from a social/contextual perspective makes necessary to further research why people engage in PA and sport, especially in the case for PWD as barriers to actively engage in active lifestyles are predominant nowadays still.

**Keywords:** physical activity, health, disability, sport psychology



## 1. Introduction

Benefits provided by the practice of physical activity (henceforth “PA”) for human beings’ health are particularly relevant in people with disabilities (henceforth “PWD”), since it positively impacts on their functional independence, widely conditioned by their level of physical fitness (Hannon *et al.*, 2006; Pérez-Tejero and Ocete, 2018). Even more, PWD are 16–62% less likely to meet PA guidelines and are at higher risk of serious health problems related to inactivity than people without disabilities (Ginis *et al.*, 2021).

Scarce literature shows the fact that PWD show lower levels of PA compared to the general population (Hannon *et al.*, 2006; Yazdani *et al.*, 2013). In Spain, it is estimated that around 3% of PWD practice some kind of PA, compared to 46% of people without disabilities (Pérez-Tejero and Ocete, 2018). This situation becomes problematic as for there is a large corpus of European-level consensus that participation of PWD in sports is a social right that must be guaranteed by UE member-states, following the United Nations Convention on the Rights of Persons with Disabilities (UN, 2006), the WHO’s Global Action Plan on Physical Activity 2018-2030, the UN 2023 Agenda and the European Strategy for the Rights of Persons with Disabilities 2021-2030, to name a few (Van Lindert *et al.*, 2023). These actions are especially relevant since PWD are more vulnerable to suffer social exclusion based on their condition and their gender, age, educational level, income, etcetera.

Besides lower inclusion in the job market, healthcare services, the educational system and recreational activities are also critical to PWD improve and maintain health (Van Lindert *et al.*, 2023).

Nevertheless, there is little research and indicators specific to this population, regarding their interests in the practice of PA and sport, which is also not usually comparable among UE nations (CSD, 2010; Pinilla and Pérez-Tejero, 2017; Van Lindert *et al.*, 2023; WHO, 2011). This fact hinders understanding of why PWD engage in PA and sport, in order to promote PA and sport participation for them at grassroots, competitive and institutional levels. Participation in sport is crucial for PWD, especially in inclusive contexts, as defined in the new Spanish law on Sport (Act 39/2022 on Sport).

In our opinion, one substantial element to understand this situation are the PWD’s motives for PA and sport practice engagement. From a psychological perspective, “motives” refer to the disposition and stable reasons that lead a person to do something (Bakker, Whiting and Van der Brug, 1990). “Motive” involves a set of variables that determine direction, intensity and persistence in relation to a specific practice (Ryan and Deci, 2000). Hence, Reeve (2010, in Gutiérrez, Feu and Blázquez, 2020) described motives behind PA and sport as follows: “external regulation (fitness/health), introjected (appearance), identified (competence), integrated (social) and intrinsic (fun)”. In this context, it should be noted that

adherence to PA and sport seems to have a positive relationship with more intrinsic motives such as “enjoyment”, while it presents a more negative relationship with more extrinsic motives, such as the body component or “appearance” (Ryan, 1995).

Additionally, the perception of physical and psychological benefits has been seen as a mediator for participation of PWD in PA (Columba et al., 2020). In opinion of Downs, MacDermid, Connelly, and McDougall (2021) accessible building, trained staff, adapted equipment and positive attitudes toward disability are crucial to facilitate PA and sport for people with physical disabilities. What is more, Larocca, Fraser-Thomas, and Bassett-Gunter (2020) found that reliability, happiness, motivation, inclusivity, accessible information or success stories are factors that facilitate motivation for PA, i.e., the perception PWD have about PA and sport can certainly encourage them to participate or not, especially if media messages are targeted directly towards them. This suggests that the exposure to messages that come from a reputable source and have a positive tone makes them non-trivial as a tool for engaging PWD into PA and sport. Motivation towards practicing PA seems dependent on who is communicating (Larocca et al., 2020).

In relation to gender, research shows that women give more importance to the reasons of appearance and health than men, who score higher in the reasons of “enjoyment” (Castañeda et al., 2018; Ferrando and Goig, 2011; Molanorouzi,

2015). We could also ask how the motivation towards PA changes in PWD, since at least in the case of able-bodied people, the amount of sports practice is more prevalent during childhood, decreasing when entering university-age, even until the point of complete attrition. (Castañeda et al., 2018). “Social aspects” and “competence” have also been identified as factors for engaging in PA by PWD (Gutiérrez et al., 2020; Ozcorta et al., 2015).

Regarding age, there seems to be a positive relationship between this and “health” dimension of motivation (Hellín et al., 2004; Montes and Suárez, 2007; Pardo et al., 2011). Complementarily, while there seems to be a negative relationship between age and “appearance” (Hellín et al., 2004; Juan et al., 2007; Moreno-Murcia et al., 2007; Pardo et al., 2011) and age and “competition” (Castillo and Balaguer, 2001; Hellín et al., 2004; Juan et al., 2007), this relationship has not been studied yet in PWD, in our knowledge. Regarding education, there may be a positive correlation between the educational level and the practice of PA and sport (Ahmadi, AminiSanii, Bani and Bakhtari, 2018; Chad et al., 2005; Hannon et al., 2006).

Complementarily, within the limited research regarding the motives that PWD have towards the practice of PA, Gutiérrez and Caus (2006), in a study conducted on people with and without disabilities, found that PWD are more ego-oriented towards it, and that the main reasons for this practice were social integration and affectivity. Other authors,

such as Torralba, Braz and Rubio (2014), found that the most valued reasons in Paralympic athletes that took part in the London 2012 games, the social aspect was the most motivating factor towards sports practice, while self-esteem and the competition-oriented areas were also relevant (Torralba et al., 2014).

Recently, Ascondo and colleagues (2023), using a scale proposed by Vargas Kostiuk (2016) originally aimed at measuring limitations for PA in adults (2016), described that motives for PA engagement are contingent on types of disability: people with intellectual and visual disabilities were more drawn towards leisure, enjoyment and building social relations, while the group with physical limitations emphasized physical improvement and rehabilitation (Ascondo et al., 2023).

It is also to be considered that personal (and in this sense, subjective) barriers have been shown in some cases to have more weight than environmental ones when limiting the access to PA, and that motives for PA and sport practice can be linked to leisure, enjoyment and social aspects. Now, regarding gender, men with disabilities usually have a more positive attitude to PA and be overall more active than women (Ascondo et al., 2023), which is consistent with the finding by the EDAD survey (*Encuesta de Discapacidad, Autonomía personal y Situaciones de Dependencia*, INE, 2022), in which would impose a rather cultural barrier even if motivation is present, towards participating in fitness and sports activities (Ascondo et al., 2023).

In this line and according to the EDAD survey (INE, 2022), 9.2% of the total population in Spain is currently reported to be in a situation of disability. At the community of Madrid, 5.32% of the population are in a situation of disability (349,897 people have this legally recognized condition), with physical disability occupying the first place among the different types of disability, with 58% of the total (Community of Madrid, 2018a). From an institutional standpoint, as expressed in the Integral Plan for Physical Activity and Sport (CSD, 2009), the greatest difficulty in ascertaining the current situation with regard to the participation of PWD in the field of PA and sport is the lack of quantifiable and reliable indicators (CSD, 2009; Van Lindert et al., 2023). Currently, there are no official national and regional data on the practice of PA and sport among PWD. The number of official sport licenses can be a useful tool to infer the percentage of practice, which at the national level corresponds to 0.32% of population with disabilities, while in the general population it is 7.5% (Pérez-Tejero and Ocete, 2018).

In view of the above, the objective of this study was to analyze the main motives for the practice of PA and sport in people with physical disabilities in the community of Madrid, while also studying its possible relationship with certain socio-demographic factors, such as gender, age, educational level, severity of disability and interest in sport itself. These motives would be useful in order to suggest actions for PA and sport

promotion and practical applications to this population.

## 2. Materials and Methods

*Participants* —The sample was composed of 117 voluntary participants, each of whom had physical disabilities, were residents at the community of Madrid and were practitioners of PA. Access to the sample was possible through the collaboration of institutions representing and referring to physical disability, such as the Spanish Committee of Representatives of the Disabled (CERMI), the Foundation for Spinal Cord Injuries, the Association of Spinal and Physically Disabled Persons in Madrid (ASPAYM), the Federation of Associations of Persons with Physical and Organic Disabilities of the community of Madrid (FAMMA), the State Representative Platform of Physically Disabled Persons (PREDIF), the Spanish Confederation of Associations for the Care of People with Cerebral Palsy (ASPACE) and various sport and non-sport foundations and associations (e.g. También Foundation). The inclusion criteria were a) age equal to or greater than 15 years up to 74 years, b) to have a certified physical disability (equal or greater than 33%), c) to reside at the community of Madrid and d) to be a practitioner of physical activity and sport at the time of the study.

*Design* —The research used a correlational type design using a simple randomized sampling, in which a series of factors were analyzed in the form of variables from people who replied to the

questionnaire. In our case and according to the objectives of the study, the following seven factors were selected: "general interest in sport", "number of current sport practices", "sport license", "age", "gender", "degree of disability" and "level of education". There was no intervention on the part of the researcher in the process and in the naturalness of the context of analysis.

*Methodology* —In this study, the analysis of the reasons for sport practice was carried out through the questionnaire Motives for Physical Activities Measure-Revised (MPAM-R; Ryan et al., 1997), translated and validated in the Spanish context by Moreno, Cervelló and Martínez (2007). This questionnaire evaluates the reasons for practice of physical activity through 30 items, grouped in five dimensions, within which are two more related to intrinsic motivation: "enjoyment" (e.g. "because I enjoy that activity"), the "social aspects" (e.g. "because I like to be around with my friends") and the "competence", which is related to the challenges that the activity presents to the person (e.g. "because I like activities that are physically challenging"). On the other hand, the other dimensions are related to more extrinsic motivations, such as: "appearance" (e.g. "because I want to be attractive to others"), and the "fitness" dimension, which refers to variables related to health (e.g. "because I want to maintain my physical health and wellbeing"). This instrument allows participants to value the statement "I



practice physical activity because..." across the various items, using a 7-point Likert scale, with 1 for "totally disagree" and 7 for "totally agree". The Cronbach alpha values obtained for each dimension were .92, .91, .83, .78 and .88, respectively (Ryan et al., 1997). Additionally, one new dimension was added to the questionnaire which dealt with motives related to disabilities, i.e., "disability" as an exploratory source of information, meant to be further explored and validated in follow-up studies.

The aforementioned factors and the MPAM-R composed the research instrument, which was administered in the form of an online questionnaire through a virtual platform (SurveyMonkey®). This questionnaire was sent by email with the collaboration of the disability institutions indicated. It was sent in early October 2019 and sent as a reminder two weeks later. The duration of the questionnaire did not exceed 20 minutes. The research team was at the disposal of the participants who needed help in carrying it out. The confidentiality of the data provided was ensured at all times and the process of collecting, archiving, processing and submitting the data was ensured. The design of this research was supervised and approved by the Ethics Committee of the institution responsible for it and the recommendations of the Declaration of Helsinki (WMA, 2000) were followed at all times.

*Statistical analysis* —The statistical tools used for the descriptive analysis of the sample were frequency count and

mean. The Kolmogorov-Smirnov test was used to check the possible normality of the distribution of the data, which yielded abnormal values at  $\alpha=0.05$ , so nonparametric statistics were applied. Further, the Kruskal-Wallis test was used to analyze possible differences between the dimensions of the questionnaire for all other factors (with more than two levels of response), using the one-factor ANOVA for this test (k samples) to identify specifically the differences between these levels. Finally, the level of significance was set at  $p \leq 0.05$  and the statistical package SPSS 22.0, 26.0 and 29.0 were used.

### 3. Results

The overall characteristics of the 117 participants in the study were related to the indicated seven sociodemographic factors: with respect to gender, 33% were women and 67% were men. With respect to age, it was distributed between 5-24 years (15.8%), 25-34 years (23.8%), 35-44 years (32.7%), 45-54 years (18.8%), 55-64 years (6.9%) and over 65 years (2%). Regarding the percentage of disability, 13.8% of the participants reported having a "moderate" disability (meaning less or equal 49% of officially registered disability), 27.7% a severe disability (50-70% of officially registered disability) and 58.5% a very severe disability (over 70% of officially registered disability). With regard to the level of education, 50% had elementary, baccalaureate or vocational education (non-university completed education) while 50% had a higher university or postgraduate degree

(completed university education). Now, regarding interest in physical sport activity, 10.3% (11 participants) indicated little interest, 53% (60) moderate interest and 36.8% (46) high interest in sport. As for the number of physical sport activities performed, 6% (7) did not perform any, 32.5% (38) did one and 61.5% (72) did two or more. Additionally, 38.8% of the participants indicated that they currently have a federal license, while 15.5% indicated that they do not have one, and 45.7% indicated that they do not currently have one, but they had in the past. Dealing with the within-MPAM dimension analysis for each of the seven determined sociodemographic factors in

this study, and for data reporting purposes, the 7-point Likert scale was summed up to two categories: “agree” (points 4 to 7 of the scale) and “disagree” (points 1 to 3).

As for the distribution of all six dimensions, as appreciated in table 1, we can see that five out of six dimensions are valued positively on average by over 80% each, being the “disability” dimension the least valued of all, meaning that in general this one represents less of a motive for sports and PA practice among respondents, while the “fitness” motive represents the main reason for engaging in these activities with 90% of agreement.

**Table 1:** Overall average percentages of agreement of the dimensions of the MPAM-R (n=117). \*Dimension incorporated in this study

Dimension	Agree	Disagree
Enjoyment	88	12
Social aspects	84	16
Competence	86	14
Appearance	66	34
Fitness	90	10
*Disability	66	34

**Table 2:** Average agreement percentage of MPAM dimensions by factor. \*Dimension incorporated in this study. The remaining percentage up to 100% correspond to disagreement.

Factor/Dimension	Enjoyment	Social aspects	Competence	Appearance	Fitness	*Disability
Educational level (n=94)	89,7	84,8	88,1	67,8	90,5	65,3
Gender (n=100)	87,8	83,7	87,5	67,5	88,4	65,7
Possession of sports license (n=71)	87,5	80,4	87,8	70,1	90,9	68,8
Level of disability (n=94)	88,9	83,6	88,3	69,4	90,5	62,2
Age (n=99)	87,3	81,6	87	64	86,6	65,7
Sports and PA practice (n=117)	87,6	79,4	75,3	61,5	84,9	58
Interest in sports and PA (n=117)	92,8	87,6	79,7	64,8	85,5	67,3

**Table 3:** Percentages of most valued dimensions by sub-factor (n=117), all statistically significant.

Dimension	Question	Sub-factor	Percentage	Significance
Enjoyment	Because it is fun	Does not have sports license	94,4	0,01
		Practices several sports	95,8	0,004
		Much interest in sports/PA	97,7	<0,001
	Because I enjoy this activity	Does not have sports license	94,4	0,011
		Practices several sports	97,2	<0,001
		Much interest in sports/PA	100	<0,001
	Because I like to do this activity	Practices several sports	98,6	<0,001
		Much interest in sports/PA	100,0	<0,001
	Because it makes me happy	Practices several sports	97,2	<0,001
		Much interest in sports/PA	95,3	<0,001
	Because I think it is interesting	Much interest in sports/PA	95,3	<0,001
	Because I find this activity stimulating	Practices one sport	97,2	0,003
		Much interest in sports/PA	97,7	<0,001
	Because I like the excitement of participating	Much interest in sports/PA	79,1	0,002
Social aspects	Because I like to be around with my friends	Does not have sports license	88,9	0,012
		Practices several sports	91,7	0,009
		Much interest in sports/PA	88,4	<0,001
	Because I like to be around others that are also interested in this activity	Practices several sports	93,1	0,025
		Moderate interest in sports/PA	91,9	0,001
	Because I want to meet new people	Much interest in sports/PA	86	0,002
	Because I like to spend time with others doing this activity	Much interest in sports/PA	93	0,005
	Because I want to improve the skills I currently have	25-34 years old	95,8	0,031
	Because I like to get involved in activities that are physically challenging	Practices several sports	93,1	0,011
		Moderate interest in sports/PA	90,3	0,019
Competence	Because I want to develop new skills	Practices several sports	94,4	0,016
		Much interest in sports/PA	95,3	0,023
	Because I like challenges	Practices several sports	90,3	0,008
		Much interest in sports/PA	90,7	0,008
	Because I want to maintain my current skill level	Little interest in sports/PA	91,7	0,015
	Because I like activities that represent a physical challenge	Practices several sports	87,5	0,004
Much interest in sports/PA		95,3	0,002	
Fitness	Because I want to have more energy	Practices several sports	94,4	0,026
	Because I want to improve my cardiovascular capacity	Much interest in sports/PA	93	0,045
	Because I want to maintain my physical strength to live healthy	Much interest in sports/PA	97,7	0,045
	Because I want to maintain my physical health and wellbeing	Much interest in sports/PA	97,7	0,018
Disability	Because it is convenient for me to stay physically active	University degree	93,2	0,021
		Does not have sports license	94,4	0,043



**Table 4:** Percentages of least valued dimensions by sub-factor (n=117), all statistically significant

Dimension	Question	Sub-factor	Percentage	Significance
Enjoyment	Because it is fun	Had sports license in the past	86,8	0,01
		Practices no sports/PA	71,4	0,004
		Little interest in sports/PA	66,7	<0,001
	Because I enjoy this activity	Had sports license in the past	86,8	0,011
		Practices no sports/PA	57,1	<0,001
		Little interest in sports/PA	50	<0,001
	Because I like to do this activity	Practices no sports/PA	57,1	<0,001
		Little interest in sports/PA	66,7	<0,001
	Because it makes me happy	Practices no sports/PA	57,1	<0,001
		Little interest	50,0	<0,001
	Because I think it is interesting	Little interest in sports/PA	50,0	<0,001
		Practices no sports/PA	84,2	0,003
Because I find this activity stimulating	Little interest in sports/PA	50	<0,001	
	Little interest in sports/PA	33,3	0,002	
Social aspects	Because I like to be around with my friends	Had sports license in the past	79,2	0,012
		Practices no sports/PA	71,4	0,009
		Little interest in sports/PA	66,7	<0,001
	Because I like to be around others that are also interested in this activity	Does not have sports license	77,8	0,025
		Practices no sports/PA	57,1	0,001
	Because I want to meet new people	Little interest in sports/PA	58,3	0,002
Little interest in sports/PA		41,7	0,005	
Competence	Because I like to spend time with others doing this activity	Little interest in sports/PA	50	<0,001
		45-54 year old	84,2	0,031
	Because I want to improve the skills I currently have	Practices no sports/PA	57,1	0,011
		Little interest in sports/PA	58,3	0,019
	Because I like to get involved in activities that are physically challenging	Practices no sports/PA	42,9	0,016
		Little interest in sports/PA	50	0,023
	Because I want to develop new skills	Practices no sports/PA	42,9	0,008
		Little interest in sports/PA	75	0,008
	Because I like challenges	Much interest in sports/PA	46,2	0,015
		Practices no sports/PA	42,9	0,004
Because I want to maintain my current skill level	Little interest in sports/PA	58,3	0,002	
	Practices no sports/PA	71,4	0,026	
Fitness	Because I like activities that represent a physical challenge	Little interest in sports/PA	66,7	0,045
		Little interest in sports/PA	66,7	0,045
	Because I want to have more energy	Little interest in sports/PA	75	0,018
Disability	Because I want to improve my cardiovascular capacity	Non-university degree	90	0,021
		Had sports license in the past	90,6	0,043
Disability	Because I want to maintain my physical strength to live healthy	Little interest in sports/PA	66,7	0,045
		Little interest in sports/PA	75	0,018
Disability	Because I want to maintain my physical health and wellbeing	Little interest in sports/PA	75	0,018
		Little interest in sports/PA	75	0,018
Disability	Because I want to maintain my physical health and wellbeing	Little interest in sports/PA	75	0,018
		Little interest in sports/PA	75	0,018
Disability	Because it is convenient for me to stay physically active	Non-university degree	90	0,021
		Had sports license in the past	90,6	0,043

Additionally, as seen in table 2, when each dimension is contrasted with each sociodemographic factor, this tendency remains fairly the same, meaning the “fitness” motive reporting most of the highest values, while “disability” stays as the least prevalent motive for PA and sport practice. Nevertheless, it can also be noticed that the absolute highest value corresponds with the “enjoyment” motive within the interest in sports and PA factor, while the absolute lowest is the “disability” motive when crossed with the practice of sports and PA factor.

Now, when observing in detail each single sub-dimension with each single sub-factor, it can be seen that some statistically significant differences appeared. Due to the complexity of reporting each and all of these crosses, only the most (table 3) and least (table 4) valued dimensions by sub-factors have been reported, using the percentage of agreement (the remaining omitted percentage for sum 100%, corresponds with the disagreement percentage).

In the case of the most valued dimension, when observing the “enjoyment” dimension, it can be noticed that the sub-dimension “because it is fun” was mostly valued by people who have much interest in sports and PA, which is also the case for the affirmations of “because I enjoy this activity”, “because I like to do this activity”, and “because I find this activity stimulating” and “because I like the excitement of participating”. Complementarily, people who practices several sports valued the

most positively “because it makes me happy” motive for engaging in PA (see Table 3). In contrast, people who report having little interest in sports and PA, gave the lowest value to the motives of “because is fun”, “because I enjoy this activity”, “because it makes me happy”, “because I think it is interesting”, “because I find this activity stimulating” and “because I like the excitement of participating”. Additionally, people who practiced no sports or PA, gave the lowest agreement to “because I like to do this activity”.

When analyzing the “social aspects” dimension, people who practice several sports value the most the motive of “because I like to be around with my friends”, which is also the case for “because I like to be around others that are also interested in this activity”. On the other hand, people who have much interest in sports and/or PA, gave the greatest importance to the reasons of “because I want to meet new people” and “because I like to spend time with others doing this activity”. On the other hand, respondents who had little interest in sports and PA, showed the lowest values in regards to the motives of “because I like to be around with my friends”, “because I want to meet new people” and “because I like to spend time with others doing this activity”. In addition, it was participants who practiced no sports or PA who agreed less with the reason of “because I like to be around others that are also interested in this activity”.

Regarding the “competence” dimension, the age group between 25 to

34 years old was the one that valued the most the reason of “because I want to improve the skills I currently have”, while respondents who practiced several sports gave greater relevance to “because I like to get involved in activities that are physically challenging”. Moreover, people who reported having much interest in sports and PA, highlighted the most the motives of “because I want to develop new skills”, “because I like challenges”, and “because I like activities that represent a physical challenge”. However, participants reported little interest in sports and PA were the ones that gave the most importance to “because I want to maintain my current skill level”.

In comparison to this, the 45-54 age group was the one that gave lowest relevance to “because I want to improve the skills I currently have”, while participants who practiced no sports or PA, deemed less valuable the motives of “because I like to get involved in activities that are physically challenging”, “because I want to develop new skills”, “because I like challenges”, and “because I like activities that represent a physical challenge” (see Table 4). However, interestingly enough people who reported much interest in sports and PA were the ones that gave less relevance to “because I want to maintain my current skill level”.

The “appearance” dimension showed no statistically significant differences among any of the factors and sub-factors. Yet, the “fitness” dimension did so in regards to people who practices several sports when valuing “because I

want to have more energy”, while participants who had much interest in sports and PA represented the participants who gave the higher relevance to “because I want to improve my cardiovascular capacity”, “because I want to maintain my physical strength to live healthy” and “because I want to maintain my physical health and wellbeing”. Respondents who practiced no sports or PA gave lower importance to the motive of “because I want to have more energy”, while participants with little interest in sports and PA agreed the less with the reasons of “because I want to improve my cardiovascular capacity” and “because I want to maintain my physical strength to live healthy”.

Lastly, when categorizing the “disability” dimension, people who did not have a sport license who gave more importance to “because it is convenient for me to stay physically active”. In contrast, people with little interest in sports and PA gave the less relevance to “because I want to maintain my physical health and wellbeing”, whereas participants who did not have a university degree reported lower percentages of agreement with “because it is convenient for me to stay physically active”.

#### 4. Discussion

The main objective of this study was to better know the motives for the practice of PA and sport among PWD (in the community of Madrid) to explore better ways to promote active lifestyles from the results. The participants were mainly men

(two thirds of the total), with a wide variety of ages and educational level (50% of former university students) and more than half had severe physical disabilities. In addition, more than 90% of the participants indicated that they were moderately or very interested in sport, with more than two thirds of the total participating in two or more different sporting activities. Even more than 50% have had a federated sport license. As stated previously, PA does not only improve physiological markers of PWD who engage in sports, but, there is also a notable improvement in social competence and self-perception, which in turn improves their quality of life (Hannon *et al.*, 2006; Ginis *et al.*, 2021; Rimmer and Rowland, 2008). This is also in part due to subjects in this program consider that they have more control over some of their circumstances, thus improving their sense of autonomy and regulation, possibilities further encouraged by the practice of PA and sports.

The results indicated that, for the most part, the main reason for practice was related to the “fitness/health” dimension, along with the “enjoyment”. This finding is similar to those found in previous studies on PWD (Abellán and Januário, 2017; García and Ospina, 2008; Úbeda-Colomer, Monforte, Granell, Goig and Devís-Devís, 2018; Ascondo *et al.*, 2023). Now of course, there are a number of barriers and facilitators to PA practice among PWD, however, dwelling into them would go beyond the scope of this article. Yet, it would be valuable to ask

more profound questions about the imaginaries of PWD around PA and sports, since the sequence and hierarchization of perceptions organized on social schemata can shed light on the subjective differentiations and thus, classifications PWD built the idea of “physical activity/sports” around, thusly helping understand what substantiates at an individual level the motives they have to practice PA and sports (García & Rodríguez, 2008; Fernández and Fernández-Río, 2019; Ferrando and Goig, 2011; Gutiérrez *et al.*, 2020; Mollinedo, Trejo and Araujo, 2013; Ozcorta, Buñuel, Torres and García, 2015).

The “enjoyment” motive has turned out to be the second most rated by the sample, which coincides with specific studies in disability (Harada and Siperstein, 2009; Úbeda-Colomer *et al.*, 2018). Similarly, Bragaru *et al.* (2013) and Buffart *et al.* (2009) found in their studies that health and fun were the main reasons as facilitators to perform PA and sports. On the other hand, the “competence” dimension appears as the third most important, which is in contrast to the results obtained by those who detected the “competence” motive as one of the bottom three least important (Ferrando and Goig, 2011; Harada and Siperstein, 2009; Torralba, *et al.*, 2014; Úbeda-Colomer *et al.*, 2018). Friends participating in sports has been shown to be a motive for PWD to engage in PA, plus feeling more involved with their friends and families (Harada & Siperstein, 2009). Consistently with other authors, health is among the most relevant motives to

practice PA, though having social relations becomes less important with age (Úbeda-Colomer et al., 2018).

From a socioecological perspective, there is much to be said about what shape these motives, yet going further into that topic would go far beyond the scope of this article (Úbeda-Colomer et al., 2018). Now, individual factors are not enough to explain human behavior, since individuals are inserted in a larger context that also shapes their possibilities, as a result of interdependent levels of interactions, meaning biological, psychological, social personal and social group, organizational, institutional and communal levels (Úbeda-Colomer et al., 2018). Now a possible link between these four levels may be culture as setting for expectations both at subjective and societal level. How these expectations are created and reproduced it is not clear but at the present moment several questions can be drawn, such as how culture shapes the interest in PA and sports among PWD, how culture set the limits to what preferences PWD set when choosing either a specific sports or type of training regime, or why they report to be more drawn towards PA and sport based in some motives and not others. As for the case of people with lower limb amputation, they tend to have improved self-esteem and a better body image when participating in sports (Bragaru et al., 2013). Infrastructure may play a role into motivating PWD to practice PA, since it has been perceived as not adapted enough to facilitate PWD participation (Bragaru et al., 2013).

PA and sports benefits greatly PWD, especially considering the benefits in personal autonomy as part of an improvement of their overall physical condition. Now, in the specific case of Spain, age seems to be one of the most associated factors to the apparition of disabilities (INE, 2022; Pinilla & Pérez-Tejero, 2017). Indeed, according to the last version of the EDAD survey, the absolute majority of limitation for everyday life activities are mobility problems, while the most prevalent kind of disabilities are bone and joint-specific, hearing and sight related, which are more commonly linked to later stages in life (INE, 2022).

In addition, this research wanted to determine the possible influence of different socio-demographic factors on the reasons for physical sport practice. Regarding gender, no significant differences were found between men and women, which is consistent with previous studies that specifically investigated the population with disabilities (Abellán and Januário, 2017; Harada and Siperstein, 2009; Torralba et al., 2014; Torralba, Vieira and Rubio; 2017; Úbeda-Colomer et al., 2018). In this line, almost no differences were found between groups of different ages, coinciding with the results of other researchers (Gutiérrez and Caus, 2006; Úbeda-Colomer et al., 2018). While some authors did not find differences in the reasons for practicing PA between PWD and people without disabilities (Harada and Siperstein, 2009), unlike other studies (Gutiérrez and Caus, 2006), we can infer that the results obtained differ from those found in previous investigations, possibly

due to the fact that they were mainly carried out in the general population.

Regarding the possible influence of the educational level on the motives of practice, we have not found significant differences, like previous researchers, except when taking into in consideration motives directly linked to situations related to having a disability. That said, although various studies have found that a higher academic level is related to higher level of PA and sport practice among PWD (Hannon and Kelleher, 2006; Úbeda-Colomer *et al.*, 2018): in our case it was not possible to find records regarding its possible influence on the motives. As already indicated, more than half of the participants had university-awarded, which is noteworthy, since the group of persons with disabilities, in general, is far from the level of access of the conventional population to higher education. Only 1.3% of the group in Spain has a university education, a low percentage compared to other countries such as Canada, where this group represents between 5% and 10% of the total of university students (Reina *et al.*, 2018). It therefore seems that the relationship between academic level and sport practice in persons with disabilities deserves further analysis.

Lastly, one limitation of this study and the reason why it should be replicated in the future other than validating the “disability” dimension, it is that when separating the actual respondent sample into socio-demographic groups, each respondent count became smaller, becoming equal or

less than 101 cases each, which may explain why mostly no statistically significant difference among these groups were found. However, it is of most interest that the factors of “sports and PA practice” and “interest in sports and PA” resulted to be the most statistically significant across almost all dimensions of the questionnaire. Future research using this new proposed version of the MPAM-R, would most likely benefit of an extended time frame for data collection, thusly obtaining a larger factual sample size which would make comparisons among groups more robust, and also exploring even further these last to motives for engaging in PA.

## 5. Practical Applications

The paradigm shift in understanding disability and its current social model, together with lack of access to PA and sports by PWD (like in the community of Madrid, the region where this study was performed), make it necessary to continue researching the reasons why PWD engage in PA and sport, especially in application of the brand-new law on sport in Spain (Act 39/2022 on Sport). A limitation of this study may be that the reasons of the group of people with physical disability due to amputation may differ from the specific population of people with paraplegia, for example: the different etiologies of disability may require different grounds for practice. However, there were no differences according to the percentage of disability of the participants. Along these lines, perhaps



the motives of other groups of PWD (hearing, visual, intellectual, etc.) are different from those involved in this work, so future studies will have to be carried out in these groups. Another possible limitation of this study is that there are motivations among the same disability status that influence the reasons; therefore, in the future it is proposed to raise a "disability" dimension with items related to this health condition, not present in the current MPAM-R. Additionally, by the very nature of the sample the researchers had access to, it may be possible that a more diverse response pool could have been omitted since participants were already locatable by local institutions and non-governmental institutions, and they already reported to practice sports. In this sense, people who do not take part in local or voluntary associations of PWD, or who are not yet medically certified as having a disability may change in a significant manner the results here shown if access to them could have been granted. This of course, is a matter for future research.

However, because of the composition of the sample used in this study, further replications in other autonomous communities have to be made, since it is known that the rates of PWD in Spain can vary greatly from one community to the other. For instance, Galicia, Canarias and Castilla-La Mancha have the highest rates of PWD in the country (116.5, 115 and 111,4 per 1000 inhabitants respectively), while Madrid, Navarra and Baleares have the lowest prevalence (80.7, 79.6 and 79 per 1000

habitants respectively), while the national average is 97 per 1000 inhabitants (INE, 2022). This implies, laying in the numbers, that the community of Madrid has a disability rate lower than the national level, which opens the possibility for comparing what the motives for PA practice can be among populations belonging to locations with higher disability numbers. This also means that for the case of these other communities the results obtained in this work may differ, meaning that at least in principle there is a possibility for finding significant differences among age, gender and educational level for the motives of PA and sports practice. Conversely, internal differences among each dimension of the MPAM-R questionnaire may vary for other geographical locations since the demography of those places are not the same as in Madrid.

It seems that motives related to both intrinsic and extrinsic aspects, such as the fun factor and health, are facilitators for active participation. Giving the opportunity to the protagonists of this collective to get involved and expose their personal desires, needs and experiences, will allow for more pragmatic results at an individual and institutional. The study of the motives of PA and sport practice should coexist with education, promotion and inclusion like those currently carried out in Madrid, through the Plan for the Promotion of Physical Activity and Inclusive Sport (Community of Madrid, 2018b) and through awareness programs regarding the benefits that PA and sports provides to PWD, in order to achieve

greater adherence to PA and sport practice, reduce the risks of developing diseases associated with insufficient PA and, ultimately, produce in a healthier and more equitable population.

## 6. Conclusions

The main reasons for the practice of PA and sport in people with physical disabilities in the community of Madrid were “fitness/health” and “enjoyment”, which in general were not differentiated according to the socio-demographic factors studied, such as gender, age, educational level, severity of disability and possession of federal license. Future research will have to study these findings in other disabilities or other Spanish regions, and these findings should be used when designing sport and PA promotion programs to base adherence by people with physical disabilities.

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