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**Involvement in Multiple Race Events Among International Para and Non-disabled Swimmers**

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**Abstract** International para swimmers have participated in the world's largest swimming competition, the Paralympic Games, since 1960. The number of events has increased from 11 in 1960 to 100 in 2012. The aim of this study was to quantify the level of involvement across different events and to examine its relation to the level of participation in international para swimming competitions. Data were collected from both para and non-disabled swimmers who collected 11 race events between 1960 and 2012. The data were collected from 111 para disabled swimmers, 111 non-disabled females, and 111 non-disabled males. The total number of unique swimmers was recorded. Swimmers were grouped according to the race times in each event. The mean race time and the number of events won per swimmer per race were calculated. The level of participation was investigated. Swimmers with impairment from classification 1.1 and 1.2 were more likely to participate in multiple events than swimmers with other impairments. Para and non-disabled swimmers who won one or more medals won more medals in para events than did non-disabled swimmers. The more race events swimmers participated in, the more medals they won. The mean race times decreased over time. The mean race times for para swimmers were higher than those for non-disabled swimmers. This trend can partially be explained by the less concentrated competition pool for para swimmers compared to non-disabled swimmers. The results suggest that no physical impairment affected in subjects race times more often than did age-related factors. Para swimmers participated in the international meet and in a cross-cultural environment.

**Keywords:** Para-swimming, race events, international competition, cross-cultural environment

**INTRODUCTION**

Paralympic swimming has developed from the first Paralympic Games in 1960 in Rome to the current Paralympic Games in Rio de Janeiro, Brazil, in 2016. The Paralympic Games are organized by the International Paralympic Committee (IPC) and are open to people with specific impairments and the swimming medal coverage has increased from 11 events in 1960 to 100 events in 2012. The Paralympic Games are held every four years and are organized independently of the Olympic Games. In 2012, 1,000 para swimmers from 104 countries participated in the Paralympic Games in London, United Kingdom. The Paralympic Games are the second largest multi-sport event in the world after the Olympic Games (IPC, 2015; Manca et al., 2012, 2016). Consequently, Paralympic swimming

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International elite Para swimmers form a large portion of the overall multi-medalist winning population. For the highest performing Para swimmers, world class performances were achieved across different strokes. The aim of this study was to quantify the level of involvement across different events and to examine this in relation to the level of performance. The performances in swimming speed of the top 100 females and males for both Para- and non-disabled swimmers were collected in 11 race events between 2009 and 2019 (4,400 performances for 307 Para females and 365 Para males, 605 non-disabled females, and 715 non-disabled males). We tallied the number of events in which each swimmer was involved. Swimmers were grouped according to the total number of race events in which they participated. Then the association between involvement and level of performance was investigated. Para swimmers with impairment from classes seven to 14 were involved in a range of race events across different strokes. The most common combination for both Para and non-disabled athletes was over similarly distanced races of the same stroke (50 and 100m freestyle). The more race events in which Para swimmers involved, the higher the level of performance that was achieved. This trend can partially be explained by the less concentrated competition pool for Para swimmers compared to able-bodied swimmers. Para swimmers with minimal and no physical impairment perform in multiple race events more often than able-bodied swimmers. Fewer Para swimmers at the international level and a less concentrated competition pool could explain these differences.

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