

Athletic competitions have always been a universal attraction to people. It is a concentrated event displaying not only strength but beauty as well. Among a dazzling array of athletic events, the Olympics is surely to be most shining one among them. Every four years, both athletes and coaches give in every bit struggling to improve their performance and winning the glorious medal for their country. Huge amounts of data and analysis have been done in order to prepare committees better. Whereas, instead of focusing on the great Olympics, we focus on the other side, the Paralympic Games, which is a periodic series of international multi-sport events involving athletes but with a range of physical disabilities. Our group focuses our analysis mainly on three factors affecting medal winning of each National Paralympic Committee, number of coaches and athletes, gender, and age.

First, for the number of coaches and athletes, (figure as follows).

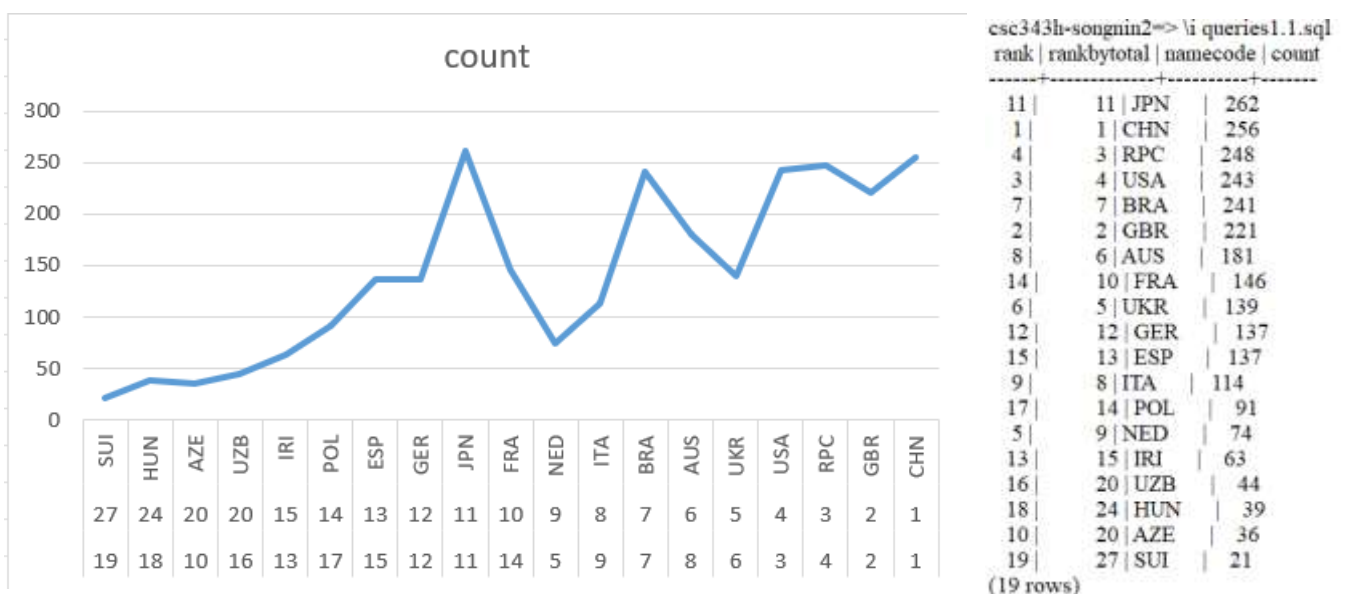


Figure 1.1: Number of Athletes to Number of Medals

The data seems a bit of mess at first, but if we dig deeply, there is still patterns to be discovered. From the figure where the x-axis is ranked by total of medal winning, we observe that the tendency of performance of each country increases when there is an increasing of number of athletes. Japan seems to be an exception, but it is to be explained that as the hosts of the Paralympic Games, it is conventional to think that they are sending more people, especially coaches and accompanying assistants.

Netherland and Ukraine are exceptions, but it could be possible that a country that only sends elites to the game, they could stand a chance of winning more medals without more human resources input. But we should not deny the existence of tendency because of only these two special points.

If we only observe the table, which is ranked by the number of people attends, we can also give similar conclusions because when taking out Japan as exception, countries that send more people are more likely to perform better.

However, when it comes to the relationship between coaches and medal performing, the relationship could be vaguer. But we have a possible explanation for this. Each country has its own advantage sports, either teamed sports or individual sports. And obviously, teamed sports require less coach for every possible winning. (For instance, a whole basketball team of 10 people may have 1-2 coach, but one swordsman requires two coaches and assistants, even more).

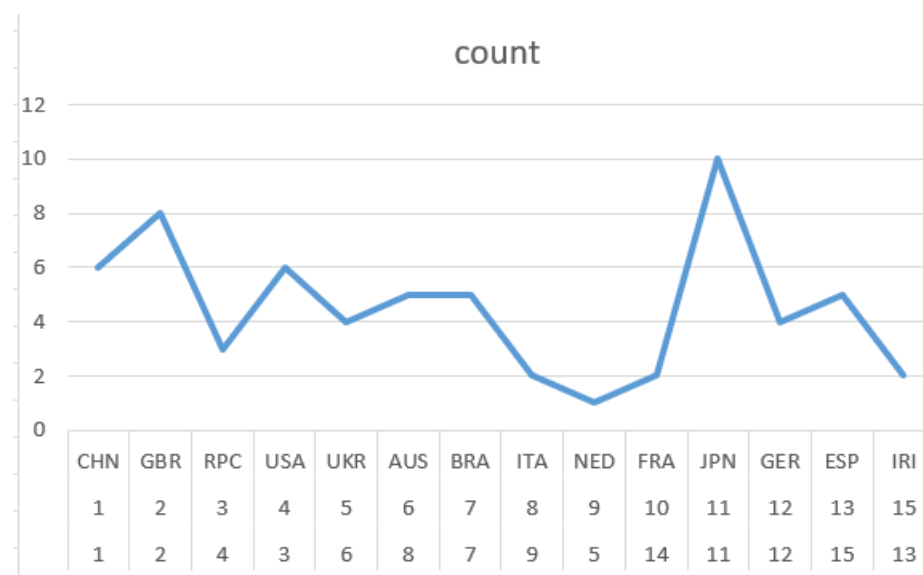


Figure 1.2: Number of Coaches to Number of Medals

Second, for gender, we investigate using gender divide, which is the extent of ratio of men athletes to women athletes. When the division is greater than 1, men outnumber women, and when it is 0, women outnumber men, and when men and women are in balance, the result gives 1. In the following graph, countries are ranked from the best using total medals.

In contrast to the traditional impression of men usually outperform women in sports, the figure tells us that a balance of men and women athletes or a greater number

of women athletes gives you a better chance of better performance on total number of medals winning.

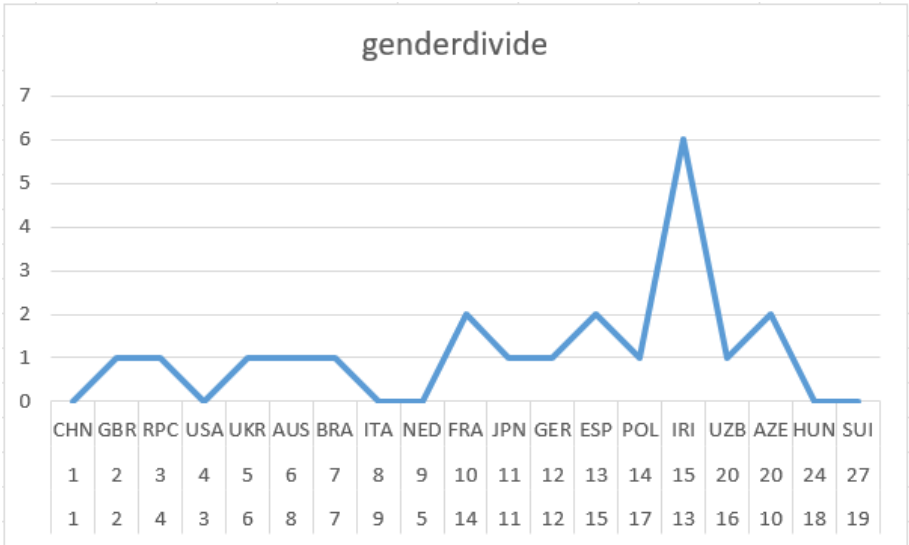


Figure 2.1 Gender ratio to medal winning performance (x-axis is ranking)

Finally, on the question of age, we apply similar methods of considering extent of aged in an NPC, we use age divide (we consider athletes less than 30 years old as young). In the following graph, countries are ranked from the best using total medals. Again, surprisingly, our expectations of younger athletes dominate in the highest

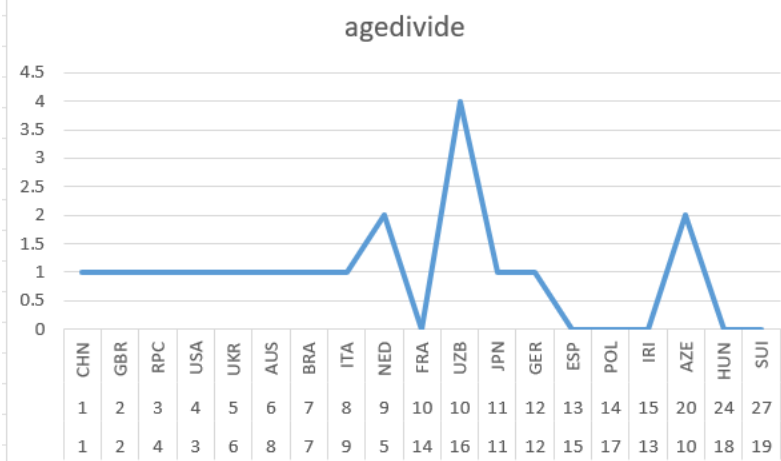


Figure 3.1 Age Divide to Rankings of Total Medal

performance countries did not occur. Instead, a more balance combination guarantees the best performance. This is mainly due to the reason that for Paralympic Games, skills and experiences sometimes outweighs the peak performance of body conditions. Thus, with the experience of the elder athletes and the body of the younger ones, an NPC can be guaranteed to give the highest possible performance.