



High-Performance Management Forum Amsterdam 2008

Performance Analysis Report Throwing Events

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INTRODUCTION

The following is a report that contains information about the performance results in the four different throwing events included in athletics competition: shot put, discus throw, hammer throw, and javelin throw. The aim of the report is to provide facts and analysis that will serve as the basis for discussion at the European Athletics High-Performance Management Forum in October 2008.

Competition data from senior and junior athletes included in this report includes several results from the Major Championships – World Championships (WC), European Championships (EC), and Olympic Games (OG) within the last 10 years, and other performance indicators for athletes on the World and European Lists as well as the individual performances of the top 8 male and female throwers in each event.

SHOT PUT

The shot put is an athletics track and field event involving “putting” which is throwing in a pushing motion a heavy metal ball called the shot as far as possible. Competitors take their throw from inside a circle 7 feet or 2.135 meters in diameter, with a toe board approximately 10 cm or 4 inches high at the front of the circle. The distance thrown is measured from the inside of the circumference of the circle to where the shot lands at its nearest disturbance of the soil. Each competitor receives a certain number of throws, usually 6 in elite competition, and the competitor with the farthest legal put is declared the winner. In men's competition, the shot weighs 7.26 kilograms (16 pounds). The women's shot weighs 4 kg (8.8 pounds). Men over the age use a 6 kg shot (13.2 pounds).

Shot put has been a part of the Summer Olympic Games since their inception and is also included as an event in the indoor world championships. The shot originates from Highland games 'stone put' where Scottish people put a rounded cube, stone, or metal form of considerable weight from behind a given line. Two putting styles are in current general use by shot put competitors: the glide – a technique that involves the putter facing backwards, rotating 180 degrees across the circle, and the tossing the shot, and the spin which involves rotating like a discus thrower and using rotational momentum for power.

Competitors participate in both outdoor and indoor events. The current world records for men's outdoor at 23.12m (75 ft 10.2 in) was set by Randy Barnes of the USA in Westwood, California on 20th May 1990. Randy Barnes also holds the world record at indoor at a distance of 22.66m (74 ft 4.1 in) in Los Angeles, California on 20th January 1989. The world record in women's at outdoor is held by Natalya Lisovskaya of the Soviet Union at 22.63m (74 ft 2.9 in) and achieved this in Moscow, Russia on 7th June 1989. The world record for women's indoor at 22.50m (73 ft 9.8 in) is currently held by Helena Fibingerova of the Czechoslovakia who reached this distance in Jablonec, Czechoslovakia on 19th February 1977.

DISCUS THROW

In the discus throw event the athlete throws a heavy disc, called a discus in an attempt to mark as far as possible. The modern discus used in men's competition is circular, about 219 mm (8.6 inches) in diameter and 44 mm (1.75 inches) thick at its centre. It is made of wood or similar material, with a smooth metal rim and small, circular brass plates set flush into its sides. Its weight must be not less than 2 kg (4.4 pounds).

According to Britannica Encyclopedia Online (<http://www.britannica.com>), a discus event was included when women's track and field was added to the Olympic program in 1928. A slightly smaller discus weighing 1 kg (2 pounds 3.2 ounces) and 180 mm (7.1 inches) is used in women's events. In modern competition the discus must be thrown from a circle 2.5 m (8.2 feet) in diameter and fall within a 40° sector marked on the ground from the centre of the circle.

The current world record for men's discus is 74.08 meters held by Jürgen Schult (GDR), obtained on June 6, 1986. The women's discus world record holder is Gabriele Reinsch (GDR), obtained on July 9, 1986. Both records were broken in Neubrandenburg, Germany.

HAMMER THROW

The hammer throw consists of throwing a heavy metal ball attached to a wire and handle. The name "hammer throw" is derived from older competitions where an actual sledge hammer was thrown. The hammer is a three-part device that includes a metal ball, called the "head," attached to a steel wire not longer than 121.5 cm with a grip or "handle" on the end. The hammer is the only throwing competition in which throwers may wear gloves. According to Britannica Encyclopedia Online the hammer throw was standardized in 1875 by establishing the weight of the hammer at 7.2 kg (16 pounds) and its length at 1,067.5 mm (later changed to a maximum 1,175 mm [46.3 inches]) and by requiring that it be thrown from a circle 2.135 metres (7 feet) in diameter.

While the men's hammer throw has been in the Olympic Games since 1900, the IAAF did not start ratifying women's marks until 1995. Women's hammer throw was first included in the Olympics at the 2000 Summer Olympics in Sydney, after having been included in the World Championships a year earlier.

The current world record for the men's hammer was set by Yuriy Sedykh (URS) who threw 86.74 m at the European athletics championships held in Stuttgart, West Germany in 1986. The current world record for the women's hammer was set by Tatyana Lysenko (RUS) who threw 77.80 m in Tallinn, Estonia on 15 August 2006.

JAVELIN THROW

The modern javelin is made of metal, must not be less than 260 cm long and weigh at least 800 g for men and no less than 220 cm long and weigh at least 600 g for women. According to Britannica Encyclopedia Online the javelin is thrown directly forward, after a short run, with an over-the-shoulder motion into a 29° sector marked on the field. It must land point first. The thrower's body may not rotate a full turn (360°) before the javelin is released. The thrower may not step on or beyond a line at the end of the runway. Javelin is also an event featured in both the Heptathlon and Decathlon competition.

The rules have impacted the overall competition in recent years. Discussions for rule changes began in 1983 and it wasn't until 1986 and again in 1991 that the rules changed for the men's competition. In 1999, the women's competition adopted similar rules. As a result, all previous records removed and new records began with the new javelin.

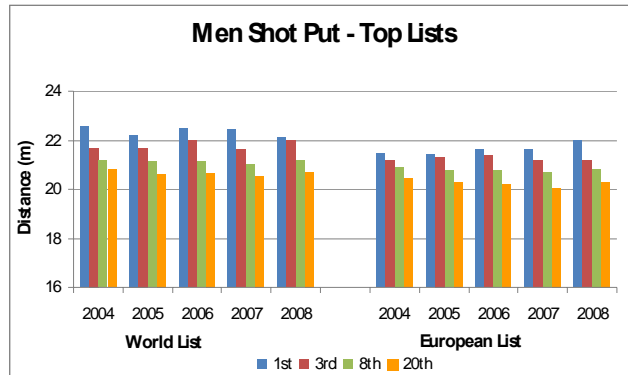
In 1984, Uwe Hohn of West Germany threw a Javelin over 100m, to a distance of 104.80m, where the previous record was 99.72m, it was no considered dangerous and the implement was changed. Although 100m was not reached, the same change was imposed in 1999, and now the current record of 95.54m thrown by Czech Republican Jan Zelezny still stands since 1996.

The current world and European record for the men's javelin was set on 98.48m by Jan Zelezny (CZE) on 25th May 1996. Jan Zelezny (CZE) also holds the previous world record set on 95.66m on 29 August 1993 that looks to stay in the record books for some more years, after the specification of the Javelin changed in 1986. It took over 10 years for distances over 98 m to be achieved and the field of top athletes are becoming more clustered with similar distances but no overall improvement around 90-92m. The current world and European record for the women's javelin throw was recently set on 72.28m by Barbara Spotakova (CZE) on 14 September 2008. Osleidys Menendez (CUB) has the previous world record of 71.70 set on 14 Aug 2005.

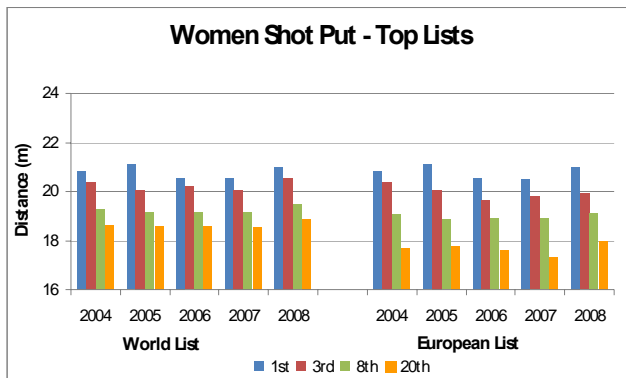
SENIOR ATHLETES – WORLD AND EUROPEAN TOP LISTS

RESULTS FOR POSITIONS 1, 3, 8, 20

As the figure shows the longest mark for male shot put throwers on the World List came in 2004 at a distance of 22.54m and the lowest was in 2008 at 22.12m. However, we can see that the standard has remained consistently high as the mark has been maintained above 22m throughout the last 5 seasons. The marks for positions 3, 8 and 20 have remained around the same level also. By contrast, the standard for throws in the European list has been lower and has tended to be usually around mid-21m mark and only in 2008 did a European reach the 22m mark. There has also been little change in the standard for the marks of 3rd, 8th and 20th place over the last 5 years.

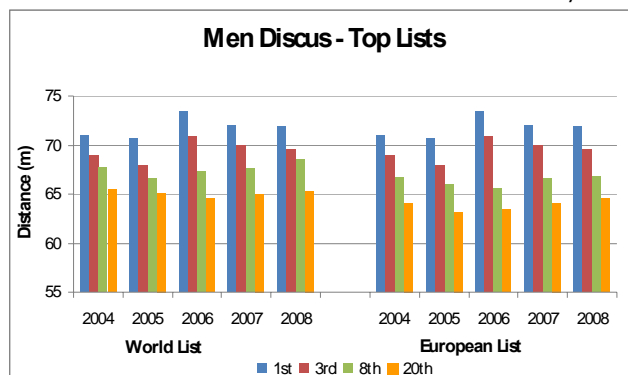


In the case of females, we can see very little difference between the standard in the World and European lists due to the fact that the women's shot put is largely dominated by Europeans. It was only in 2007 that a European failed to be also at the summit of the World list. The peak for the standard was in 2005 with a throw of 21.09m and it has fluctuated in the mid to high 20's in the other years. However, the marks for 3rd, 8th and 20th are in contrast as the standard in the world list has been above the European and is increasing whereas the trend in the European list is that the standard in 3rd and 8th has been decreasing but there have been improvements in the marks



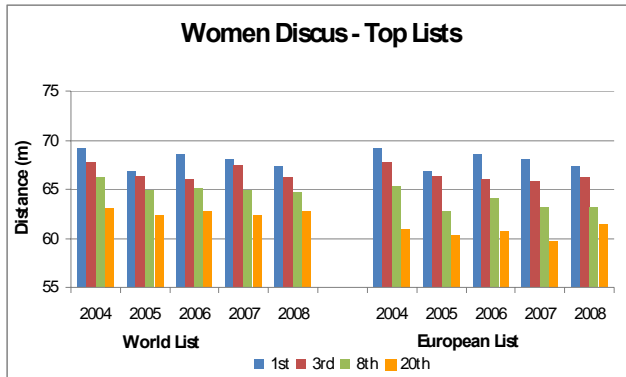
for 20th place having gone from 17.70m in 2004 to 18m in 2008.

As the figure illustrates the top 20 World List in men discus was at its best in the last 5 years, for first (73.38m) and third (70.82m) place in 2006. The distance for third place appears to be following the trend of the first place position, as one goes up so does the other. The Eighth place position looks to be increasing slightly each year since 2005. The twentieth position remains rather stable throughout the past 5 years. On the European Top list, the peak is also in 2006 because the top first and third places in the World List are



held by Europeans. Since 2006 the first and third place distances have been decreasing, while the 8th place distance has been increasing. Similar to the world list, the 20th position has stayed rather stable.

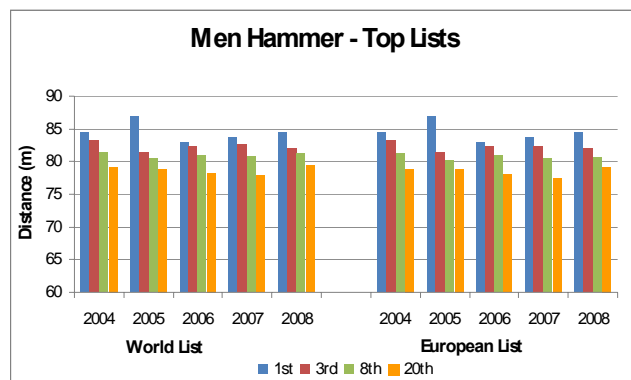
As for female discus throwers the distance required for first place on the top 20 World List for is getting shorter as the years go by.



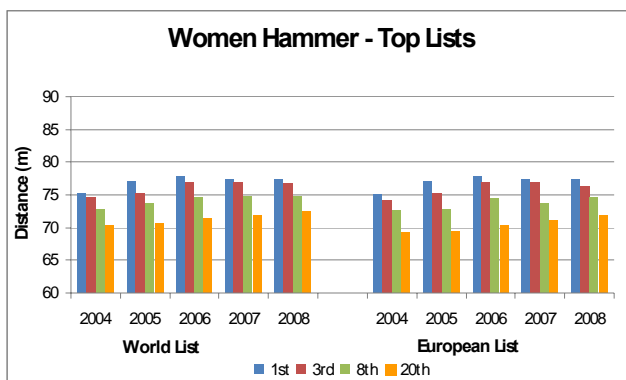
The lowest distance for a first place position was 66.81m in 2005, which is lower than 2nd place distances of 2004 and 2007. The distance for third place was highest in 2004, and decreased until 2007 when it returned above 66 to 67.36. Similar to the male discus throwers, the 20th place distance seems to stay quite stable throughout 5 years. The European Lists follow the same trend as the world list, with the overall best performance

being in 2004. Third place has steadily decreased from 67.72m in 2004 to 66.08 in 2008. Eighth place positions have been more irregular over the past 5 years, while 20th position seems to remain rather stable.

The longest mark for male hammer throwers on the World List came in 2005 at a distance of 86.73m and the lowest the year after at 82.95m. There was a difference of 5.28m between 1st and 3rd positions in 2005, the highest in the last 5 years. The standard has remained consistent a bit inconsistent with marks for positions 3, 8 and 20 improving in 2008. There has been a clear dominance of Europeans throughout the last 5 seasons in the first positions, similar trend seen for marks corresponding to the third positions. However, Europeans have not been so dominant in positions 8th and 20th although the marks are not so far away from each other.

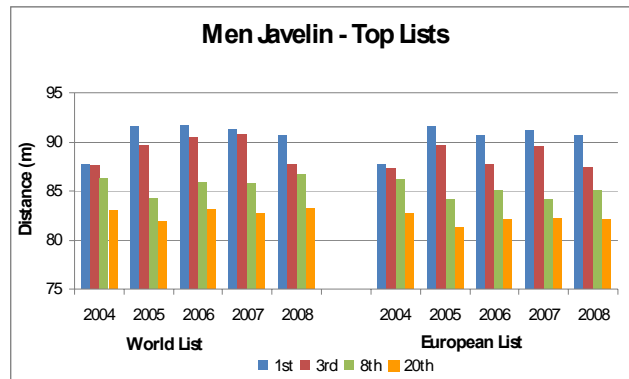


There has been a slight improvement of the distances thrown by the first spot on the world list from 2004 to 2006 when it reaches its highest 77.8m. After that the trend has remained quite stable with distances of over 77m to 2008. There has also been little change in the standard for the marks of 3rd, 8th and 20th place over the last 5 years. The improvement in the marks thrown by the first on the European list has been steady until 2006 also and after that it follows the same

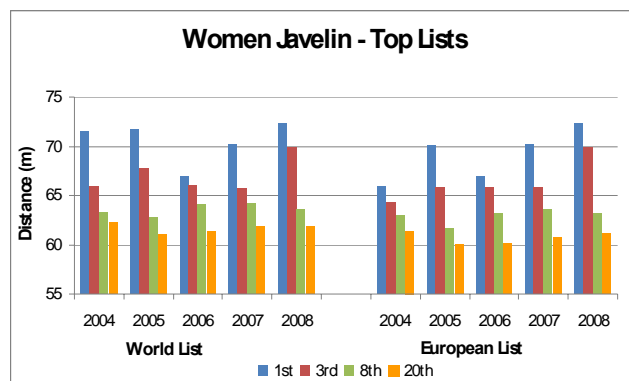


pattern as for the marks in the world lists.

As the figure shows within the last 5 years, there is a drop in performance in 2008 for male javelin throwers. In 2007, many of this year's top 8 athletes had, for the first time, shown no improvement year on year. Considering on average 16 throwers of the Top 20 World List are Europeans, the trends between the World List and the European Lists are pretty similar. In 2004, the difference between the first position and the eighth position was 1.54m, while the difference between 8th and 20th place was 3.17m. This is quite typical and probably expected for the distribution of top 20 athletes in the world. Yet, in 2008, the gap between 1st and 3rd place was 2.87m, almost the same difference between the 8th and 20th place 5 years ago. A reason for this big difference could have been the fact that the distance for 1st place was further than in 2004, but the rest of the field of athletes did not seem to progress. In 2005, the distances were the most dispersed, with the 2nd furthest thrown (91.53m) in 5 years and also the less thrown (81.20m) for the 20th ranked distance.



As for female javelin throwers the mark for the top position in world list was lowest in 2006 (66.99m) after distances over 70m in 2004 and 2005. We see for the last 3 years Europe has dominated the number 1 spot, while in the last 5 years it is noticeable the difference between world and European lists of the 20th place position from 1.15m to 0.26m. The trend in the European List has been a steady improvement of marks for 1st and 3rd positions, being the longest distance a world record throw of Spotakova of 72.28m.



NUMBER OF COUNTRIES REPRESENTED IN THE TOP 20

The following section includes information about the number of countries represented in the top lists. Note that each country is counted only once. Thus, the number of Europeans may be higher than the number of countries (i.e. there are 4 Finnish in the Top 20 of javelin throw, so this is one country, but four European).

Shot Put

There is an even spread of representation in the World and European top 20 in men's shot put. The number of countries that are in the World list has fluctuated between 11 and 15 in this 5 year period. It suggests that no one nation is dominating the sport and that it is highly competitive, although the USA has tended to be frequently among the top 3. Europe is also well represented especially by countries such as Belarus, Germany, Poland and Russia and there is a consistency of being represented at least 50%

every year. The European list also has a fairly even distribution and there has been little deviation in each of the last 5 seasons ranging from 13 to 15 different countries. As for female throwers, there has been shift in terms of the distribution patterns of representation over the past 5 years in both the World and European top 20. Both were at their peak in 2004 with 14 and 10 respectively but the trend has been towards a more uneven level with both having only 9 and 7 different countries in the top 20 in 2008. This suggests that certain nations such as Belarus, China, and Russia are beginning to assert dominance and there are fewer opportunities for other countries to emerge and make an impact.

Discus Throw

The highest number of different countries representing male discus throwers was reached in the year 2007 with 15 countries for both world and European lists, while the lowest was in the year 2006 with 11 countries. Again we can see a dominance of European countries especially during 2006 and 2007. Estonia, Germany and Hungary are the dominant countries in Europe.

	2004	2005	2006	2007	2008
Men					
World List	15	13	11	13	12
European List	15	15	13	15	14
Women					
World List	14	10	10	9	9
European List	10	8	7	9	7

	2004	2005	2006	2007	2008
Men					
World List	10	13	15	15	13
European List	12	11	11	14	12
Women					
World List	12	13	13	13	12
European List	10	9	10	11	11

As for female throwers, years 2005 through 2007 had the most diverse number of countries with 13 different nations being represented, while 2004 and 2008 (both Olympic years) had the least diversity with only 12 countries.

Hammer Throw

The number of countries that are in the World list has fluctuated between 10 and 14 for male throwers and between 9 and 13 for female throwers in this 5 year period. The top lists are dominated by European countries such as Belarus, Russia, Germany and Ukraine for both male and female throwers. Non-European countries include China and Cuba with two representatives in the case of female throwers and a modest representation of Japan or Turkey (with only one athlete from each country) in the case of male throwers.

	2004	2005	2006	2007	2008
Men					
World List	14	12	12	13	12
European List	11	11	10	11	11
Women					
World List	11	12	11	13	12
European List	11	10	11	9	11
	2004	2005	2006	2007	2008
Men					
World List	12	11	11	12	12
European List	9	9	10	8	8

Javelin Throw

There are 24 different countries represented in the Top 20 Women World Lists between 2004 and 2008. Some countries have had athletes in the top 20 list throughout the duration of 5 years, while some countries only appear once for 1 year. The most represented country, including the same athletes is Germany with 13 appearances, closely followed by Cuba with 10 appearances. Czech Republic (9), Russia (7), Finland (6) and Romania (5) also appear in almost each. In the case of women javelin throwers there are less number of countries (20) represented in the Top 20. Finland leads the way with 20 appearances, when in 2005 they had five different athletes featuring in this list. Latvia (14), Russia (13), Germany (12) have at least 2 appearances per year, while Norway (6) always appears at least once.

NUMBER OF EUROPEANS IN THE TOP 20 LISTS

Women	
World List	14 15 16 13 13
European List	13 15 13 12 12

The following table present the number of European athletes represented in the top world list for the different throwing events.

		2004	%	2005	%	2006	%	2007	%	2008	%
Shot Put	Men	10	50	13	65	11	55	10	50	10	50
	Women	12	60	14	70	11	55	10	50	13	65
Discus	Men	12	60	13	65	11	55	15	75	14	70
	Women	9	45	11	55	7	35	11	55	10	50
Hammer	Men	14	70	19	95	18	90	17	85	19	95
	Women	14	70	16	80	16	80	16	80	18	90
Javelin	Men	16	80	14	70	16	80	17	85	16	80
	Women	16	80	16	80	14	70	14	70	16	80

As the table shows the number of European countries in the World list over the past five years suggests that European nations are more dominant than their counterparts especially in 2005 with a total of 13 Europeans in the case of male shot putters. As for females, the highest representation of Europeans occurred in 2005 with a trend of decrement towards 2007. The number of Europeans in the top lists seems to be increasing again.

In the case of discus throw the number of Europeans peaked in 2007 with 15 athletes. The year 2006 had the lowest representation with 11 athletes. Thus, Europe seems to dominate the male world discus top 20 list. The average of Europeans over the 5 year period is 65%. The number of female European discus throwers in the top 20 world list has remained rather consistent over the past 5 years. Year 2006 had the highest number of Europeans with 13 athletes, while 2005 had the lowest with 9. The average of Europeans over the 5 year period is 48%.

In contrast to the smaller representation in shot put and discus, hammer throw as well as javelin throw are quite dominated by the presence of European athletes in the top 20 lists. During the previous years, especially in 2004, the influence was not so evident, however the year after almost all athletes (95%) were Europeans, trend that is repeated this year. In the case of female throwers this year there was a representation of 90% athletes being Europeans with non-European countries being different almost each year.

The number of javelin throwers who are European is the highest in 2007 in the case of male athletes being Finland (4) and Russia (4) the countries more often represented. It seems that the representation of Europe among female athletes has remained and still remains stable along the 5 year period.

AVERAGE OF AGE OF THE TOP 20 PERFORMERS

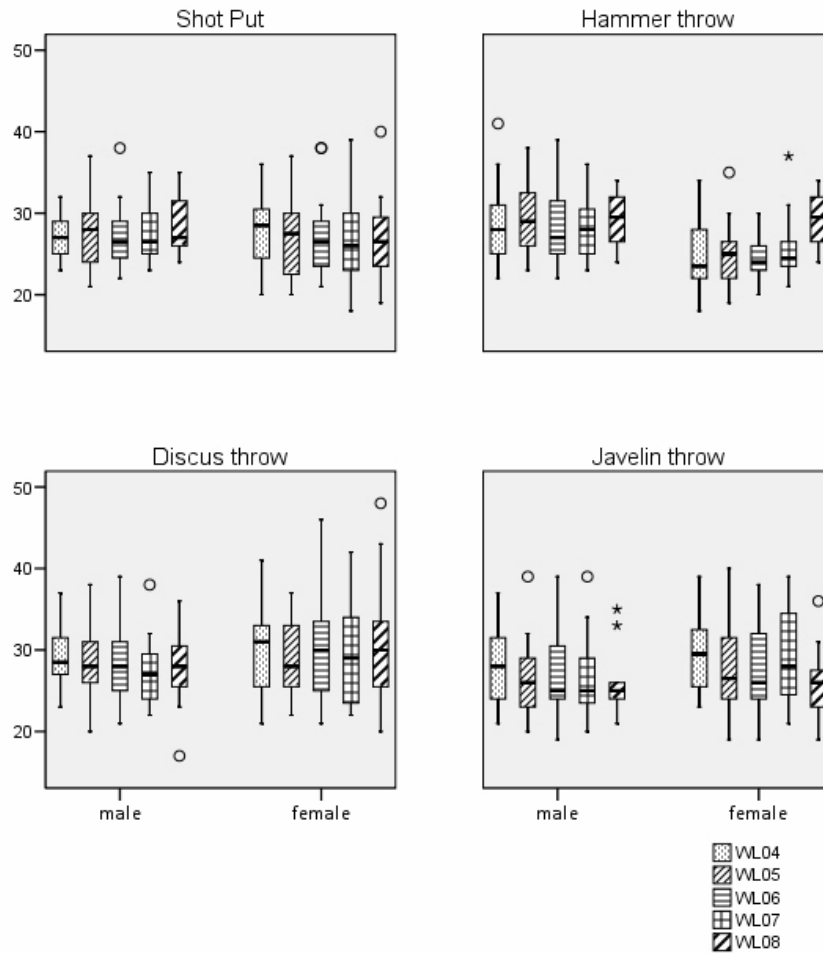
The following box plots represent the ages of the athletes in the top 20 World and European Lists in all four throwing events across gender. As the figure shows, in the case of shot put there was an increase in the median (bold line) of age for the top 20 athletes in

2004. There was also higher variability with the youngest athletes being 23 years old and the oldest 35 yrs. Such variability is even higher in the case of female throwers and increased towards 2007 with the youngest thrower being 18 yrs. and the oldest 39 yrs. The average of ages ranges from 27.1 ± 3.85 yr. in 2006 to 28.5 ± 3.4 yr. in 2008 in the case of males and from 26.5 ± 5.11 yr. in 2007 to 28 ± 4.35 in 2004.

The same pattern is repeated for male and female discus throwers. The youngest female in the world list in 2007 was 22 and the oldest was 38. The average of ages ranges from 27.2 ± 4.07 yr. in 2007 to 29.5 ± 3.85 in 2004 in the case of males and from 28.9 ± 4.42 yr. in 2005 to 30.6 ± 6.84 in 2008.

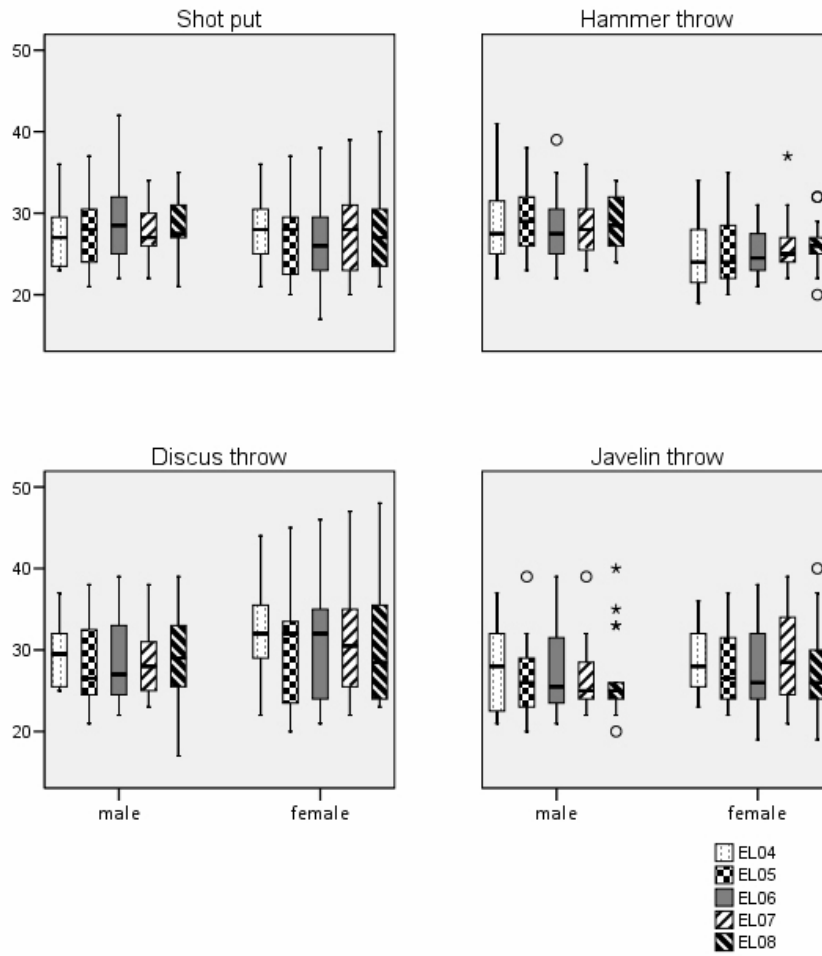
In contrast to shot put and discus throw, the ages of the female hammer throwers in the top 20 of the world list is not so disperse. As the box plots show the range of 50% (represented within the boxes) of the athletes was smallest in the world list last year. The averages of the ages across the 5 year period range from 28.1 ± 3.7 in the case of male throwers in 2007 to 29.4 ± 3.4 in 2008. For female throwers averages of age vary from 24.6 ± 2.8 to 29.2 ± 3.35 yr.

In the case of javelin throwers, again there is a higher variability in ages in females compared to the males. The averages of ages for male throwers are even smaller than in other events, ranging from 27.4 ± 5.53 yr. in 2006 to 25.5 ± 3.27 yr. in 2008. In the case of females the averages of ages range from 29.5 ± 4.44 yr. in 2004 to 25.6 ± 3.95 in 2008. There is a clear decrease in the age of both male and female throwers this season.



Box plots of the ages (in years) of the athletes in the top 20 of the World Lists

A similar pattern is followed regarding the ages of the top 20 athletes in the European Lists for shot put and hammer throw. Averages of the male shot put athletes vary from 27.05 ± 3.44 yr. in 2004 to 29 ± 4.89 yr in 2006. The averages of ages for female shot put athletes are quite similar for the past five years. However there is a greater variability with the youngest athlete being 17 and the oldest 38 in 2006. Age variability is even higher in the case of discus throwers, especially for females with oldest athletes being around their 50's. In the case of hammer throw, 50% of the athletes in the top 20 of the European lists (represented within the boxes), is much younger than male throwers and with small ages ranges. Averages of age of the female athletes go from 25 ± 2.78 yr. in 2006 to 29.44 ± 3.40 yr. in 2008. The average of age for the male athletes on the top 20 of European lists range from 28 ± 3.8 yr. in 2007 to 29.3 ± 4.2 yr. in 2005. As for javelin throwers, the youngest female athlete was 19 yr and the oldest 36 yr. in the European list this year. In the 2008 most of the athletes' age is around 24 apart from three athletes around their mid-thirties or even 40's.



Box plots of the ages (in years) of the athletes in the top 20 of the World List

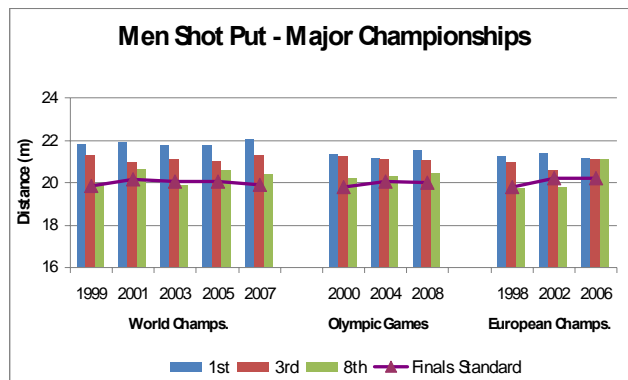
MAJOR CHAMPIONSHIPS

RESULTS FOR POSITIONS 1, 3, 8, and STANDARD TO MAKE THE FINAL

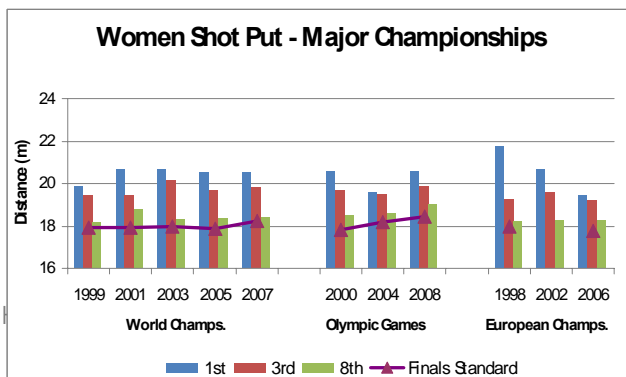
The following section includes the results at Major Competitions for positions 1st, 3rd, 8th as well as the shortest distance thrown by the 12th athlete at the Qualifying Round (q). The championships included are:

World Championships (WC) 1999 WC in Sevilla; 2001 WC in Edmonton; 2003 WC in Paris; 2005 WC in Helsinki; and 2007 WC's in Osaka	European Championships EC 1998 EC in Budapest; 2002 EC in Munich; and 2006 EC in Gothenburg	Olympic Games (OG) 2000 OG in Sydney; 2004 OG in Athens; and 2008 OG in Beijing
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As the figure shows there has been an increase in the standard mark that was required for male shot putters to win the World Championships from 21.79m in 1999 to 22.04m in 2007. The mark for the bronze medal position has also seen a slight increase in that period as well as 8th and the standard to make the final suggesting that the level of competition has increased. The Olympic Games finals have seen a similar trend where the mark for gold increased from 21.29m in Sydney in 2000 to 21.51 in the Beijing Olympics. The mark for 8th position and the standard to make the final have also increased in that time, however, the bronze medal distance fell slightly from 21.20m in 2000 to 21.05 in 2008. The European Championships has been fairly constant with a slight increase in the winning throw from 21.17m in 1998 to 21.37 in 2002 but it has level back to 21.13m in 2006. The marks for the bronze medal and 8th place have also seen slight increases however entry standard for the final has remained rigid in 2002 and 2006.



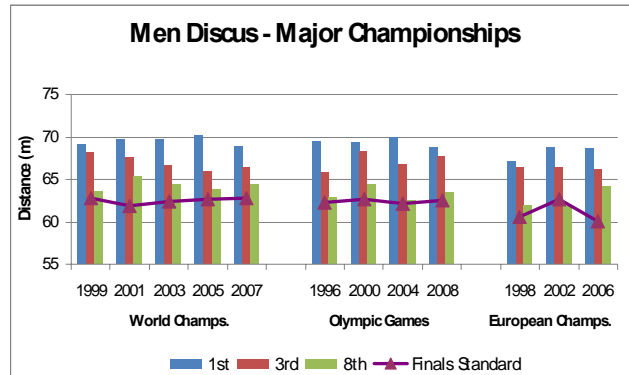
As for female shot put, the winning throw in the World Championships has increased from 19.85m in 1999 to 20.54m in 2008. The most significant increase came between the 1999 and 2001 events with a rise to 20.63m. The bronze medal standard and those for 8th position and entry to the final have also made some gains too. The standard to win the Olympic final fell slightly from 20.56m in the Sydney games to 19.59m in Athens in 2004 but increased back to the same distance in Beijing this year. The standard for bronze, 8th place and entry to the final have also increased steadily with each event. However, we



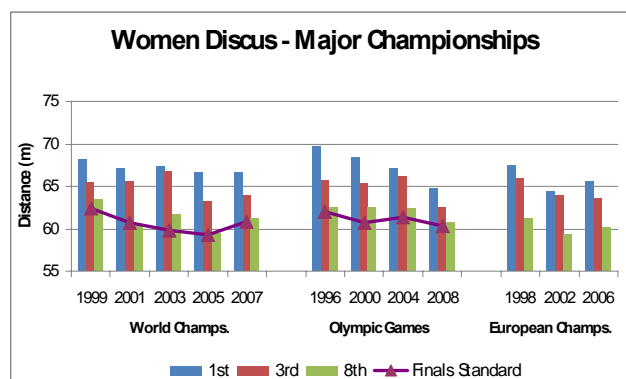
can see that the standard in the European Championships has seen a decline in most categories with the exception of that for 8th place which increased slightly. The standard to make the 2002 European final was not available.

The farthest distance thrown in male discus throw at the World Championships took place in 2005 with a distance thrown of 70.17m. Third place at World Championships has continued to decrease since 1999, but there was a slight increase in 2007 (66.42m). The eighth place has been more sporadic with the longest distance of 65.27m was obtained in 2001.

The qualifying standard for WC has been the highest in 1999 with a distance of 62.79m, since 1999 the standard has dropped to its all time 10 year low of 61.85m in 2001. After 2001 the qualifying standard for WC has continued to increase and last year it reached 62.75m. The longest distance thrown at the Olympic Games was a throw of 69.89m in 2004. However, all of the past 3 Olympic Games have had the gold medal distance above 68.8m. The distance thrown by the third and eighth places was lowest in 2004, making the distance between first and third place 3.32m, while the distance between 1st and 8th was 7.31m. The qualifying standard for the OG has been up and down for the past 10 years, the highest was in 2000 (62.72m) and the lowest in 2008 (62.12m). First place positions at European Championships are lower than in any of the other major championships, with 3rd place staying rather consistent over the past 10 years. 2006 had the longest distance thrown for an eighth place position of 64.11m for European Championships. The qualifying standard for EC has had the biggest difference, in 1998 it required only 60.59m while in 2002 the requirement was 62.7m, then the distance dropped again and only 60.11 was required to qualify for the finals.

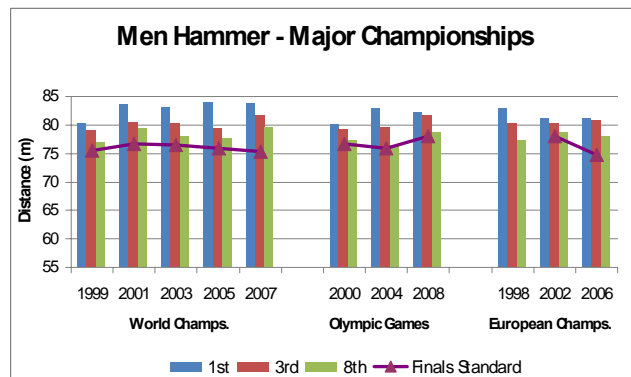


As for women discus throw, the first place for World Championships reached its highest in 1999 with a distance of 68.14m, and then remained between 67m and 66.6m through to 2007. Third place position reached its peak in 2003 with of 66.73m. Eighth place position seems to follow the trend of the first place position and has increased or decreased in the same manner as first place. In the World Championships the standard for the final has decreased consistently until 2007. In 1999 the requirement for the final was 62.35m it then reached a low of 59.3m in 2005 before increasing again to 60.89m in 2007. First place for Olympic Games has reached its peak in 2000 with a distance of 68.04, but has steadily decreased each Olympic Games since then. Third place at the OG reached its highest of 66.17m in 2004, while this year's 62.59m was a third place all time low (within the past 10 years). Eighth place distances have also been steadily declining over the past 10 years. The standard for the Olympic final reached its lowest this year with a distance of 60.28m, while the farthest distance for qualification was 61.35m in 2004. First place positions at European Championships were at their highest in 1999 when a throw of 67.49m was made to win the gold. Since 1999 first place has declined to a low of 64.31 in

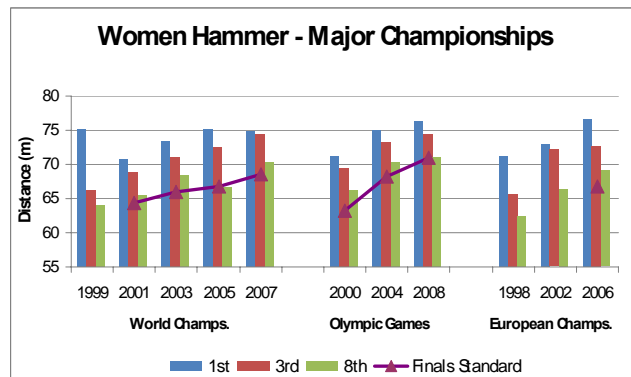


2002 and then increased to 65.55m in 2006. Third place distances have also been declining since 1998 and reached a low of 63.58m in 2006. The European Championships experienced the shortest distance for an 8th place finish in 2002 of 59.28m.

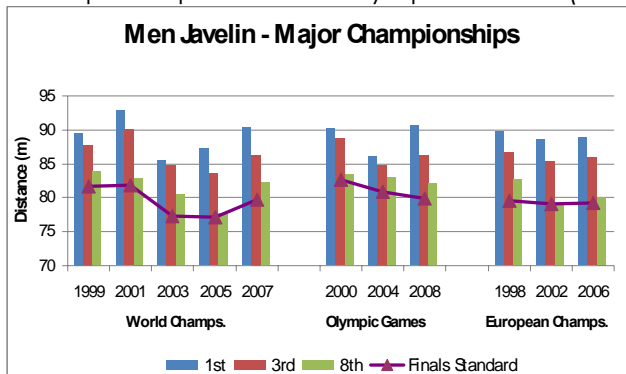
The highest distances in male hammer throw have been reached during World Championships, with throws over 83m. Only the first mark for the gold medal at the Olympics in Athens was 82.91m. Again the lowest distances have been thrown during European championships with a gold medal throwing lower each year. Minimum marks to qualify are highest at the Olympics and very near to the distances thrown by the 8th position. Interestingly, third positions have thrown farther at European Championships than at the Olympic Games apart from the throw of 81.51m last August in Beijing.



The distances thrown by the female hammer winner at the Major Championships have been steadily increasing over the years. A distance of 75.2m qualified as gold medal at the 1999 World Championships. However, the Olympic winner a year after would throw over 4 m less. The minimum standards to qualify for the final have been increasing along the years, being the highest at the Beijing Olympics in 2008 with a distance of 71 m.



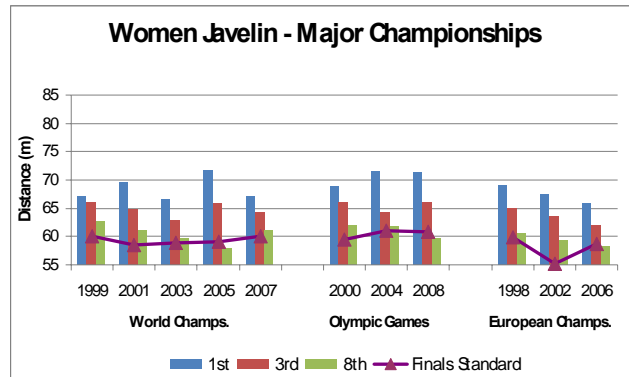
In the case of javelin throw, the distances thrown for 1st, 3rd and 8th place at the World Championships after the Olympic Games (2001, 2005), were thrown further than the same positions at Olympic Games itself.



The opposite observation occurs for the World Championships in the year leading up to the Olympics. Therefore, the European Championships provides a useful indicator of predictions for the current and future trends of distances set by the Gold medallist at the Olympic Games.

However, this trend is cannot be assumed for all distances for the 8th place athlete. Distances thrown are less at the World Championships after the Olympics, making the Olympics more spectacular with a closer range of athletes than the world championships.

In the case of female throwers there is an increase in performance of the winner at the 2005 World Championships and the 2004 Olympic Games. The biggest distance between the throws of the winner and bronze medal occurred at the 2004 Olympics. The minimum standards for the final a quite similar being lower than 60m for the World Championships and Europeans and over 60.97m and 60.8m at the 2004 Olympic Games in Athens and 2008 Games.



EUROPEANS IN THE FINAL/MEDALS

Europe has been well represented in the finals of all throw events for male and female finals of the World Championships over the last 10 years. The event with higher representation of European athletes has been hammer throw with 12 (60%) at the World Championships in 1999. After that the representation of Europe has been well distributed over the different events.

The Women's World Championship final positions have also tended to be filled mainly by Europe. In the case of shot put that was the trend at least from 2001 to 2005 when the peak was reached of 10 (83%) competitors in 2001 in Edmonton. However, this was reversed in 2007 with there being an even split between European and World athletes in the final.

In the case of discus, for World Championships in the years 1999, 2005, and 2007 there have been 9 European male throwers in the final while 2001 and 2003 had 10 finalists. All years except 1999 have had all 3 medallists that were European, while 1999 only had 2 European medallists. Olympic Games have also been similar with 9 European finalists in the years 1996, 2000, and 2004 while Beijing's games had a total of 11 finalists from Europe. All Olympic Games in the past 10 years have had all 3 medallists from Europe.

The number of female European finalist in major championships over the past 10 years has been rather uniform. The most Europeans that have participated in a female final have been 10 at WC 1999, 9 athletes were in the finals of WC 2003 and 2005, and OG 2000 and 2004. WC 2001 and 2007 contained 7 Europeans, while the lowest number of 6 was reached during this year's Olympic Games. In all competitions except for WC 2001 and OG 2004 the number of finalist has been 12, for WC 2001 and OG 2004 the number of finalists is 11.

The Olympic male hammer throw final in Athens saw 9 (45%) Europeans going up to 11 in Beijing. However, in the case of females there has been a decrease in the representation of the European nation from 9 athletes in the Olympic Games final in Athens to only 6 in Beijing implying that other athletes from outside of Europe are beginning to emerge and close the gap on European dominance. A representation of 8 (40%) Europeans in the finals has been increasing to 11 (55%) of the athletes being Europeans at the World Championships in 2007 in Osaka.

		WC	OG	WC	WC	OG	WC	WC	OG
		1999	2000	2001	2003	2004	2005	2007	2008
Shotput	Men	7	8	8	7	9	10	8	8
	Women	7	10	10	9	7	8	6	7
Discus	Men	9	9	10	10	9	9	9	11
	Women	10	9	8	9	9	9	8	6
Hammer	Men	12	11	11	9	10	11	10	9
	Women	9	8	7	7	7	8	8	9
Javelin	Men	11	10	10	11	11	10	9	10
	Women	8	7	8	8	10	9	11	10

Number of Europeans in the finals of the World and Olympic Games in the last 10 years.

The tendency has been for European male shot put throwers to claim at least 2 medals in the World Championship finals over the last 10 years but there were exceptions in 2001 in Edmonton and 2007 in Osaka saw them win just a single medal. There are favourable comparisons with the Olympic Games which saw an increase from just one medal in Sydney in 2000 to 2 medals in both the Athens and Beijing finals which saw Tomasz Majewski of Poland take gold medal on 15th August.

In the case of female shot putters, European athletes dominate the medal haul at both the World Championships and Olympic games and other world nations would appear to find it difficult to break the stranglehold that Europeans have on claiming the top three positions in the final. From 1999 to 2001, only Europeans took the medals at the World Championships but this has not been the case in 2003, 2005 and 2007. The Sydney final in 2000 saw European athletes claim all three medals. However, they have not been as dominant in the last 2 finals as other athletes from countries such as China are beginning to make an impact.

A similar trend is followed in the other events. Thus, there are a high proportion of European Athletes in the finals of Major Championships and with the exception of the silver medal in World Championships in 2007, all medals in the last 10 years belong to athletes from European countries in javelin throw, for instance.

		WC	OG	WC	WC	OG	WC	WC	OG
		1999	2000	2001	2003	2004	2005	2007	2008
Shot put	Men	2	1	1	2	2	2	1	2
	Women	3	3	3	2	2	2	2	2
Discus	Men	2	3	3	3	3	3	3	3
	Women	3	3	3	3	3	3	2	1
Hammer	Men	3	3	2	2	2	3	3	3
	Women	2	3	1	2	1	2	1	1
Javelin	Men	3	3	3	3	3	3	2	3
	Women	3	2	1	3	2	2	3	3

Number of European medallists of the World and Olympic Games in the last 10 years.

PERSONAL BEST/SEASONS BEST

The following table contains the number of Personal Bests/Season Bests/Championship Record/Olympic Records.

		WC	OG	WC	WC	OG	WC	WC	OG
		1999	2000	2001	2003	2004	2005	2007	2008
Shot put	Men	2	1	4	1	1	1	4	4
	Women	3	3	2	2	1	0	4	2
Discus	Men	4	2	5	2	1	1	0	1
	Women	1	1	2	5	1	1	3	1
Hammer	Men	1	1	4	0	1	2	4	2
	Women	0	3	1	1	5	1	0	2
Javelin	Men	2	3	3	0	3	0	2	3
	Women	4	3	1	1	4	5	2	3

The number of personal bests (PB) / season's best (SB) made in male shot put the World Championships increased up to 4 in 2001 but there was a dramatic decrease in the numbers with only one PB/SB made in 2003 and 2005. In 2007 the amount was restored to its peak level of 4. There were only one PB/SB's made at the Olympic finals in Sydney and Athens, however, there was a significant increase in this years final in Beijing with a total of four athletes making a PB or SB. As for women, the trend has been for a number of PB/SB's to be made in each of last 5 World Championships with the exception of the 2005 championship when not a single athlete made one. In last years championship though there was a major increase with 4 participants making PB's or SB's. The trend in the Olympic Games has been for at least one PB/SB to be made but the peak was in the final in 2000 in Sydney when there were 3 PB/SB's set.

The highest number of PB/SB's for male discus throwers is 5 at the World Championship final in 2001, with 3 personal bests, 3 seasons best and 1 championship record. Female throwers had 4 and 5 PB/SB at the 1999 and 2001 World Championships, however over the last championships only one PB was thrown at the Olympic Games in Athens and Beijing.

NUMBER OF FINALISTS IN PREVIOUS EVENTS

The following table presents the number of athletes who were present in the finals of previous competitions. The highest number of finales was 8 for male javelin at the World Championships of 2001 and 2003. As for the Olympic Games, hammer throw has seen the most number of male finalists in 2008 that were also at the finals in the 2004 Olympics.

		Olympic Games		World Championships			European Championships		
		2008	2004	2007	2005	2003	2001	2006	2002
Shot put	Men	2	5	3	5	5	4	5	2
	Women	5	5	4	6	5	6	4	2
Discus	Men	2	5	3	5	5	3	4	2
	Women	4	6	3	5	3	7	1	5
Hammer	Men	6	4	6	5	4	6	2	4
	Women	3	3	5	7	6	3	3	3
Javelin	Men	3	4	4	5	8	7	3	6
	Women	4	5	5	5	6	7	6	6

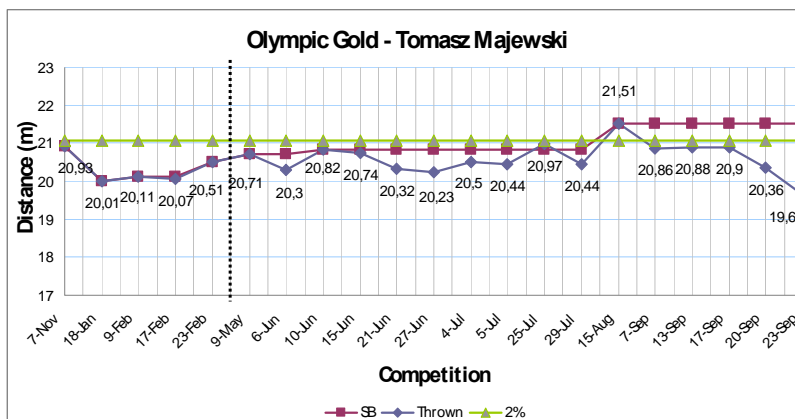
ANNUAL PERFORMANCE OF TOP 8 MALE AND FEMALE THROWERS

Top 8 throwers for each event have been selected based on their results at the 2008 Olympic Games in Beijing (gold, silver, and bronze medals) and their ranking in the World List. The data for the annual throwers' performance presented here have been collected until the end of September 2008.

SHOT PUT – SENIOR MALE ATHLETES

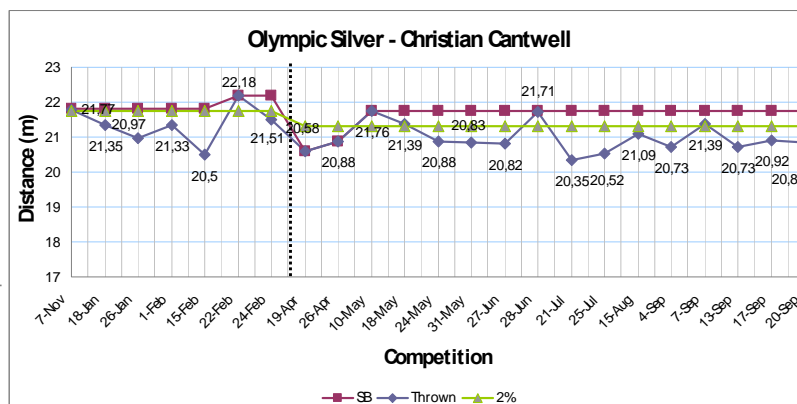
Six different countries are represented within the top 8 male shot put throwers, with 3 athletes from European countries. The USA is the only country that has more than one (3) athlete in the top 8. Six athletes had their personal best performance during the 2008 season. The performance of the throwers at indoor and outdoor (separated by a line) competitions is described and graphed in the following section.

Tomasz Majewski, of Poland, nicknamed the Silent Giant, is currently 5th in the world list. A previous SB in 2007 of 20.87 m got him into the 5th position in the 2007 World Championships in Osaka. He has also finished in 9th position at the World Championships in Helsinki 2005 with a distance of 20.83 m, and qualified at the 2004 Olympic Games in Athens with a throw of 19.55 m. Majewski was a model of consistency this season having not finished outside the top 3 in any of the 17 competitions that he participated in. He capped this off by winning gold in the final at the Olympics in Beijing on 15th August with a distance of 21.51m that was also a personal best. He also won the National



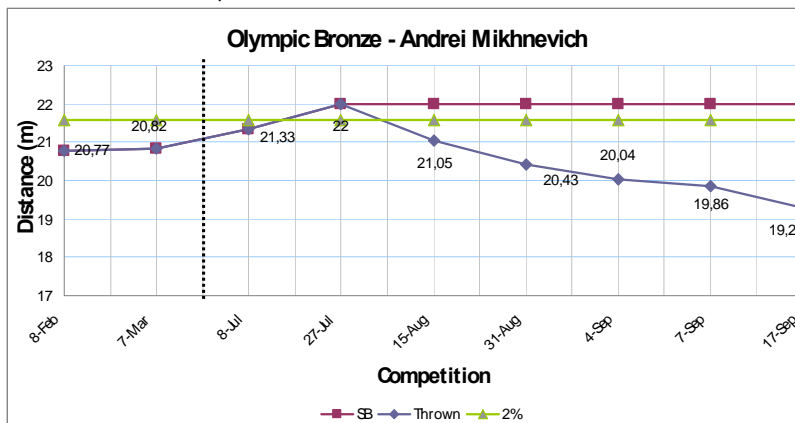
Championships on 4th July and a number of other minor competitions. As the trend in the graph shows he failed to be within 2% of his SB in any competition, apart from his performance in Beijing, but his throws were always above 20m and only dropped under that level in the very last competition. Majewski participated in 5 indoor events and was as consistent in these having not finished outside of the top 3 and winning the National Championships on 23rd February and winning bronze with a personal best of 20.93m at the World Championships in Valencia on 7th March (not included in the graph). The trend shows progression towards the World Championships where his performance level peaked. His performance level was consistently above the 20m mark and being within 2% of his SB in one event.

Christian Cantwell (USA) is a two-time World Indoor Champion (2004, and 2008) with throws of 21.77m and 21.49m respectively. Currently 4th in the World list, Cantwell has a PB –outdoor



of 22.54 m. He has also participated at 2005 World Championships in Helsinki, where he was 5th with a throw of 20.87 m. Cantwell took part in 15 outdoor competitions throughout the season. He made his season best of 21.76m on 18th May at the CallvinR. He was within 2% of his SB on 3 occasions. He achieved a silver medal on the Olympic Games with a throw of 21.09m. Cantwell also took part in several indoor competitions where he achieved a personal best of 22.18m on 15th February at the Classic. Despite being inconsistent with distances achieved he was only within 2% of his PB once and went onto win the National Championships on 24th February and then win gold at the World Championships in Valencia on 7th March with a throw of 21.77m.

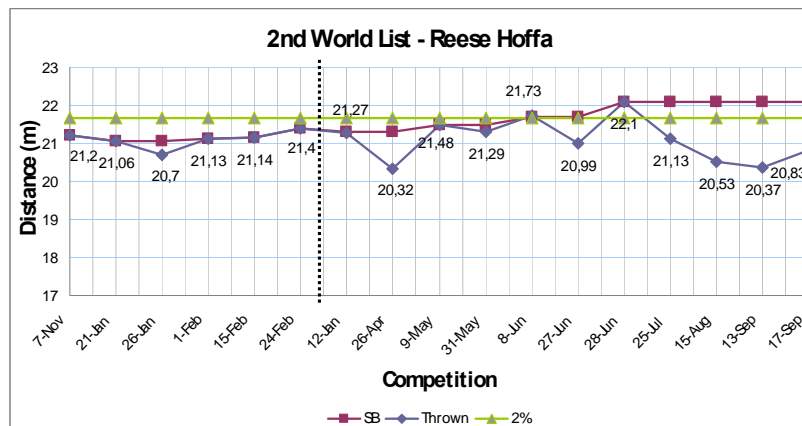
Andrei Mikhnevich (BLR) is currently 3rd in the World List. His participation in previous major championships has ended with a 3rd place in the 2007 World Championships throwing 21.27 m and 6th place in 2005 Worlds with a distance of 20.74 m. He finished 5th in the 2004



Olympic Games in Athens throwing 20.60 m. Mikhnevich took part in a total of 7 outdoor and 2 indoor competitions in 2008. He achieved his season's best in outdoor in just the second competition he participated in on 27th July at the Ovsyannik games. The trend in the graph shows that there has been a steady decline in

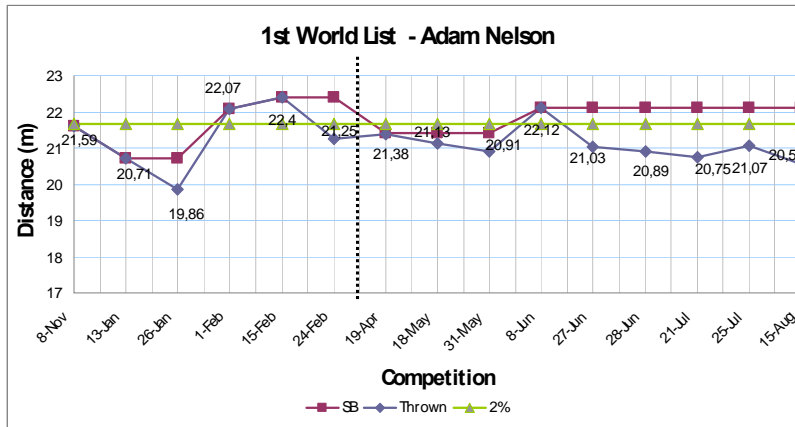
performance from that point onwards suggesting that he perhaps peaked too soon. He failed to be within the 2% mark of his SB in the other competitions suggesting inconsistency. However, despite this he qualified for the Olympic final in Beijing on 15th August and won bronze. His season best which was also his personal best at indoor level was made at the final of the World Championships in Valencia on 7th March at a distance of 20.83m but was not good enough for a medal as he finished in 4th place.

Reese Hoffa (USA), currently the second in the world list, threw in 2007 a PB of 22.43 m. Hoffa is 2007 World Outdoor champion; 2006 World Indoor champion; 2008 World Indoor silver medallist and 2003 Pan Am Games gold medallist. He has competed in a total of 10 outdoor competitions in 2008. His season's best was 22.10m which was achieved at the National Championships on June 28th. He managed to be within 2% of his SB at 21.66 on just one occasion on 8th June at the pre-NC's. The trend would suggest that there was inconsistency in performance up to that point and that progression was towards peaking at the National Championships and then there was a steady decline in performance after that but there was a slight improvement in the last meet. He made the Olympic final but finished 7th with a throw of 20.53m. He also participated in 6 competitions indoor, and achieved his season's best of 21.49m in the



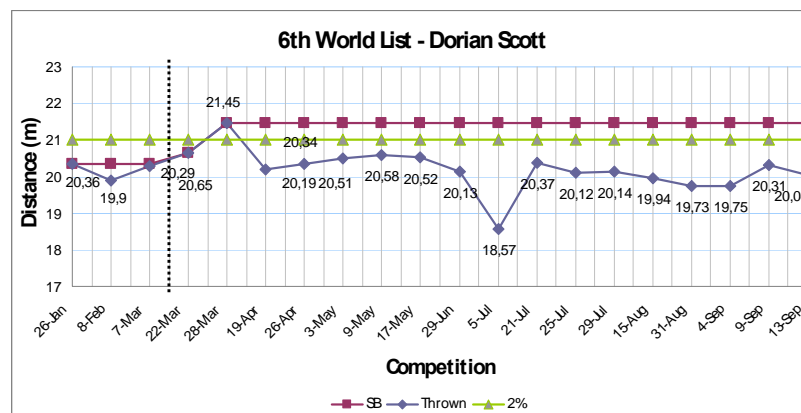
qualification round of the World Championships in Valencia on March 7th. His performance has been very consistent as he was within 2% of his SB on 5 occasions and progression was aimed at towards peaking around the time of the WC's reflected in the achievement of his SB and also a silver medal in the final.

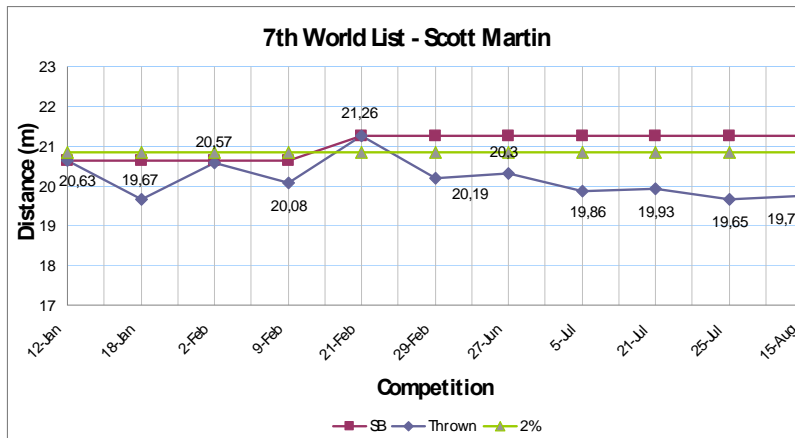
Adam Nelson (USA), born in 1975 threw a PB of 22.51 m in 2002. Currently first in the World list, he has won silver in Sydney in 2000 and in Athens in 2004, as well as silver medals at the World Outdoor Championships in 2001, '02 and '07, and the 2001 World Indoor Championships. Nelson has participated in 6 indoor competitions. The trend in the graph suggests that he was building towards peaking around the time of the National



Championships on 24th February but achieved his seasons best of 22.40m at the Tyson Invitation in the previous competition on February 15th. He managed to be within 2% of his season best on just one occasion on February 1st at Millrose. He achieved his season best at the Pre-National Championships in Oregon on 8th June at a distance of 22.12m. Nelson was eliminated in Beijing after three foul throws.

Dorian Scott (JAM) took part in a total of 17 outdoor events in 2008. He was outside the top 3 on just 6 occasions and won 6 but failed to make the Olympic final where he finished 15th in the qualifying round with a throw of 19.94m. He achieved a personal best which was also an area record in just his 2nd competition with a distance of 21.45m on 28th March at the FSUR event and also won the National Championships on 29th June. The trend in the graph, however, shows inconsistency with performance after the NC's where there was a steady decline from that point onwards and he failed to maintain his throws above the 20m mark and was never within 2% of his PB all season. Scott also took part in 3 indoor events where he won one but finished outside the top 3 in the other two including a 6th place finish in the final of the World Championships in Valencia on 7th March. He achieved a personal best that was also an area record in the qualifying round with a throw of 20.62m.

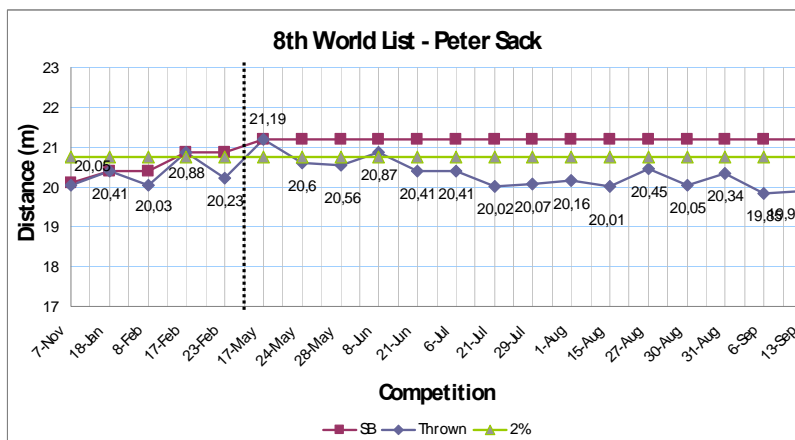




Scott Martin (NZL) competed in 11 outdoors competitions in 2008 and won 6 of those. He finished outside the top 3 on just 2 occasions. He achieved a personal best and area record of 21.26m in the Grand Prix in Melbourne on 21st February. The trend in the graph shows that he was consistent with his throws up until that point but began to drop off in

performance after that. He failed to be within 2% of his SB in any event and did not make the Olympic final having only managed to finish 21st in qualifying with a distance of 19.75m. He competed just once indoors at the World Championships in Valencia where he set a new personal best and area record in qualifying with a throw of 20.83m but finished 7th in the final with a distance of 20.13m.

Peter Sack (GER) took part in a total of 15 outdoor competitions winning 6 of those and finishing outside the top three just three times. He achieved a personal best of 21.19m at the European Cup in Annecy on 21st June. He was only within 2% of his PB in one event. However, the trend in the graph would indicate a consistency in performance up until the DecaNation event in Paris on 6th Sept where he threw below 20m for the first time in the season. He failed to reach the Olympic final where he managed to finish 13th in qualifying with a

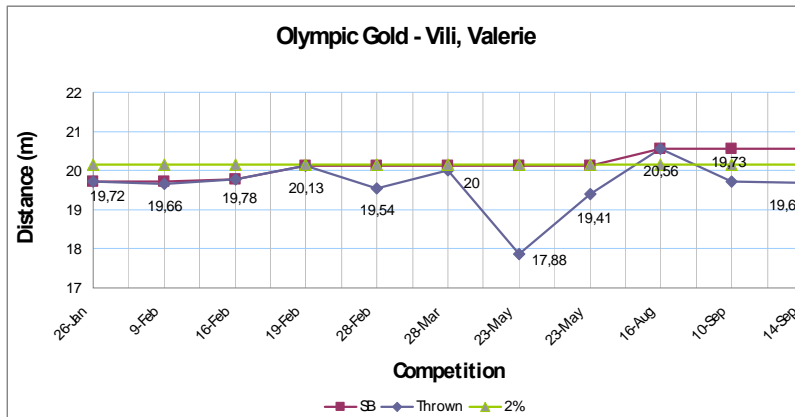


throw of 20.01m. He also participated in 5 indoor events where he won 2 and finished outside the top 3 on one occasion only managing 8th place in the World Championship final with a throw of 20.05m. He achieved a personal best of 20.88m at the Sparkassen event in Leipzig on 17th February. He failed to be within 2% of his PB in any indoor competition. The trend shows consistency in performances with distances of above 20m in each event.

SHOT PUT – SENIOR FEMALE ATHLETES

Six countries are also represented within the top 8 female shot put throwers, three athletes being European. Belarus has more than one (3) athlete in the top list. Four athletes had their personal best during the 2008 season, three of which were achieved at the Olympic Games in Beijing.

Valerie Vili, (NZL) born in 1984, competed in 10 competitions in 2008 and was a model of consistency winning all 10 competitions. Vili claimed Olympic gold in Beijing on August 16th and in the process made a personal best and a new area record with a throw of 20.56m

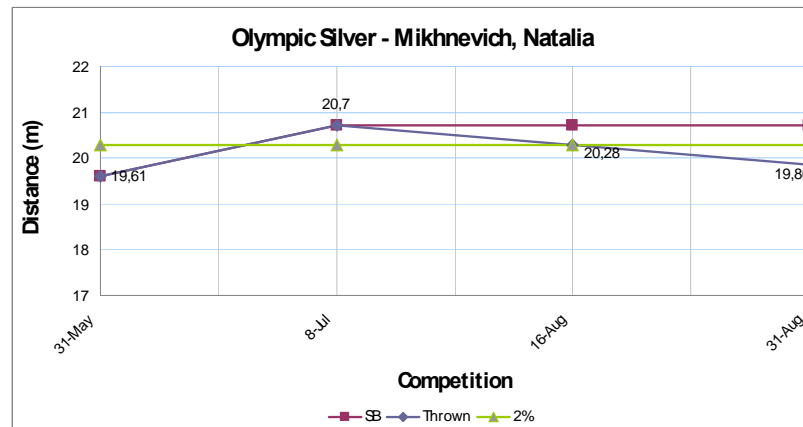


in the final. The trend in the graph shows that her level of performance over the season was consistently high maintaining distances well above 19m although she never managed to be within 2% of her PB at all. She has also competed once in any indoor events (not included in the graph) and managed to claim gold in the World Championship final in

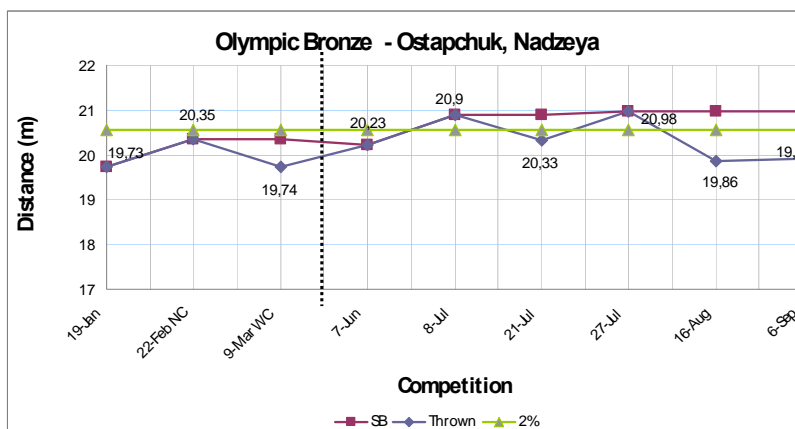
Valencia on 9th March with a new personal best and area record of 20.19m.

Natallia Mikhnevich (BLR) took part in just 4 outdoor competitions in 2008 winning one of them and finishing two in the other three. She achieved her season's best at the National Championships where she finished 2nd with a throw of 20.70m.

The trend in the graph indicates a progression towards peaking around the time of the NC's and the Olympic Games. Despite not being within 2% of her SB in any competition she qualified for and won a silver medal at the Beijing Olympics on 16th August with a throw of 20.28m. She did not participate in any indoor events.



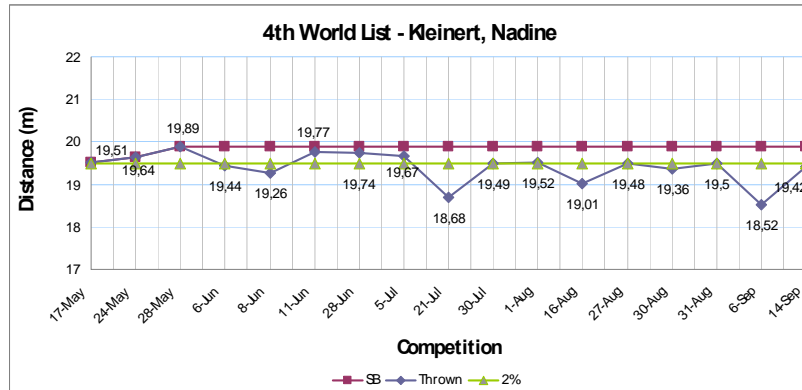
Nadzeya Ostapchuk (BLR) competed in three indoor events, in which she won two and claimed silver in the World Championship final with a throw of 19.74m.



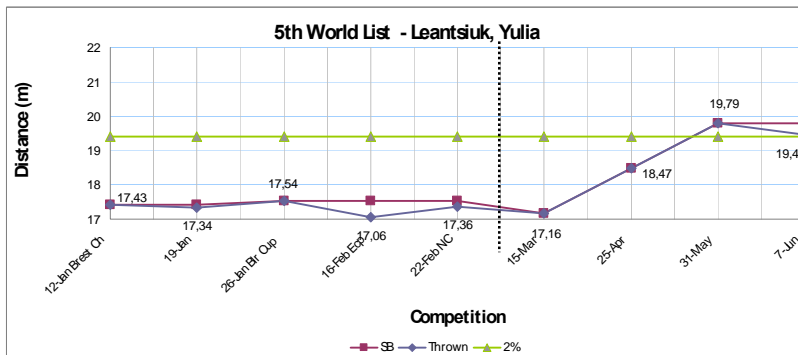
However, she made her season best of 20.35m winning the National Championships in Mogilyov on 22nd February. She also competed in 6 outdoor events winning 4 and only finishing outside the top 3 in one. She achieved her seasons best of 20.98m at Ovsyannik on 27th July. She was within 2%

of her SB just once. The graph shows consistency in her level of performance in the first 4 events but a slight drop in the last two. Despite the reduction in performance it was still good enough for her to claim a bronze in the Olympic final on 16th August with a throw of 19.86m.

Nadine Kleinert (GER), participated in a total of 17 outdoor competitions in 2008 where she won 12 of them and finished outside the top three just once. She achieved her seasons best of 19.89m at Neuwied Engers on 28th May. The graph demonstrates a consistency with her level of performance across the entire season as she was within 2% of her SB on eight different occasions and only in two events did she fail to maintain her throws above the 19m mark. She qualified for the Olympic final in Beijing on 16th August but finished 7th overall with a distance of 19.01m. Kleinert also competed in 2 indoor events where she finished runner-up on both times achieving her seasons best of 18.93m at the Erdgas event in Chemnitz on 29th February.



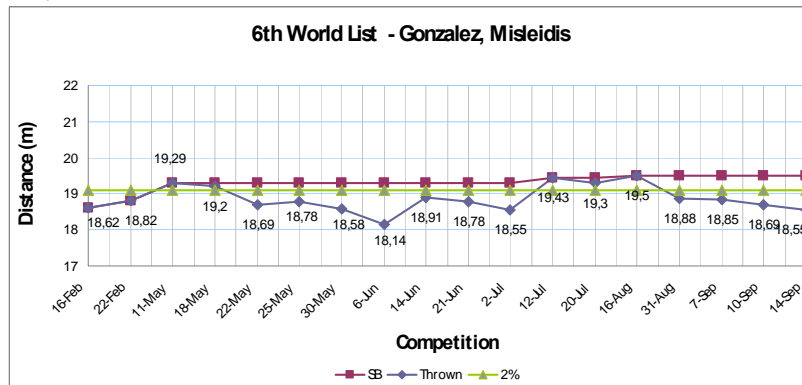
Yulia Leantsiuk (BLR) only competed in 5 outdoor events in 2008, however, she was disqualified under an IAAF ruling during the European Cup event in Annecy on 22nd June. She won two of the events and finished runner-up and 5th in the other. She made her



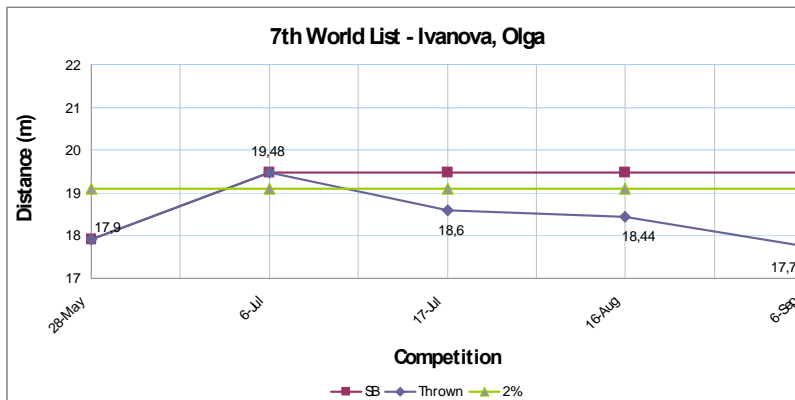
seasons best in the Belarusian Cup in Brest on 31st May with a throw of 19.79m. The trend suggests steady progression was made with her level of performance going from 17.16m up to her SB of 19.79m even though she managed to be within 2% of her SB in just one competition. She did not

compete at the Olympic Games in Beijing. She participated in 5 indoor events in which she won two and had two 3rd place finishes. Her season's best was made at the Belarusian Cup on 26th January with a distance of 17.54m. The graph shows a consistency in her level of performance maintaining distances of above 17m and also she was within 2% of her SB in three events.

Misleidis Gonzalez of Cuba competed in a total of 18 outdoor events in 2008 where she won 13 of them and finished outside the top three in just one. She made a personal best of 19.50m in the Olympic final in Beijing where she finished just outside the medals in 4th position. The trend in the graph shows a pattern of inconsistency in her performance levels in terms of distance varying from high to low and she was only within 2% of her SB in two events. She also competed in just one indoor event which was the World Championships where she reached the final and finished 4th with a throw of 18.75m which was also a new personal best.



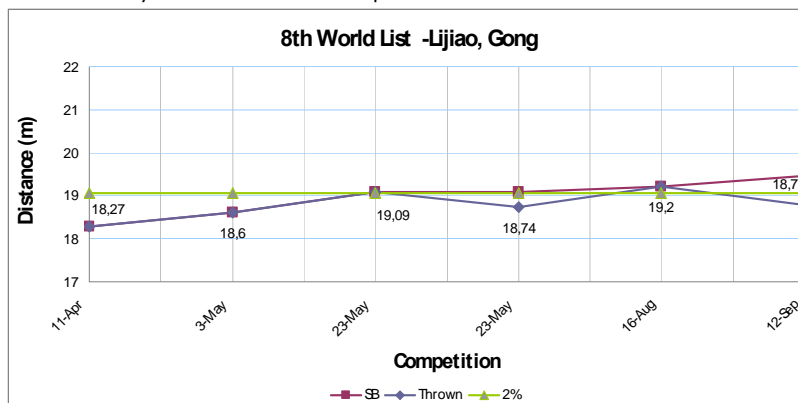
Olga Ivanova (RUS) took part in only 5 outdoor events throughout 2008 winning only one and had one 2nd place and 4th place finishes. She made a personal best of 19.48m at the Russia Cup in Tula on 6th July but as the graph shows never was within 2% of this at any other point of the season. The trend was progression to her PB and then a gradual drop in distances made in the competitions afterwards. Overall she was inconsistent in her level of performance and did not maintain her throws above a certain



Russia Cup in Tula on 6th July but as the graph shows never was within 2% of this at any other point of the season. The trend was progression to her PB and then a gradual drop in distances made in the competitions afterwards. Overall she was inconsistent in her level of performance and did not maintain her throws above a certain

level. She made the final of the Olympics in Beijing but finished in 9th place with a distance of 18.44m. She competed in just one indoor event where she finished in 8th place at the National Championships in Moscow with a throw of 15.72m.

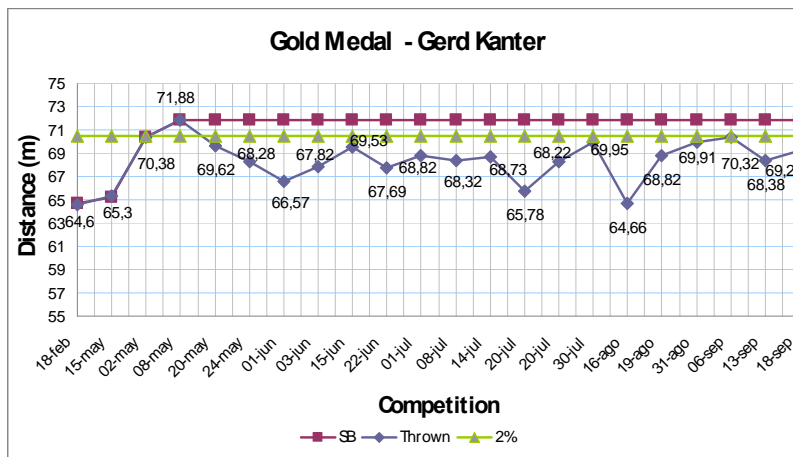
Gong Lijiao of China participated in only 5 different competitions in 2008 where she won once and had two 2nd place finishes. Her season's best was achieved in the qualifying round of the Olympic Games at a distance of 19.46m, which is not captured on the graph. The graph indicates that her performance levels were steadily improving towards the time of the Olympics where despite making a new personal best she finished outside of the medals in 5th place. She was also within her PB in just one event. Lijiao also took part in an indoor event, which she won with a throw of 18.12m at the Asia Cup in Doha on 14th February.



DISCUSS THROW – SENIOR MALE ATHLETES

Within the top 8 male discus throwers seven different countries are represented, being five athletes from European countries. The USA is the only country that has more than one athlete (2) in the top 8 list. Five athletes had their personal best performance during the 2008 season. Three athletes reached their 2008 SB at Salinas CA, with one athlete also reaching a PB at Salinas in 2006. Five athletes reached SB in May, while two reached SB in July, and only one in June.

Gerd Kanter, (EST) born in 1979, competed at the 2004 Athens Olympics, but did not reach the final. Kanter won the gold medal at the World Championships in 2007 in Osaka with a throw of 68.94m. In 2005, he won silver in Helsinki (68.57) and also threw more than 70 metres for the first time that year. His PB of 73.38 m (2006) was the third best in history, after the throws of Jürgen Schult (74.08 m, 1986) and Virgilijus Alekna (73.88 m, 2000). Kanter has won the gold medal at the 2007 World Athletics Final in Stuttgart with a throw of 66.54, the silver in 2006 in Stuttgart (68.47) and in 2005 in Monaco (66.01), and finished fifth in 2004 in Monaco (63.28). Kanter is currently ranked first on the World List.

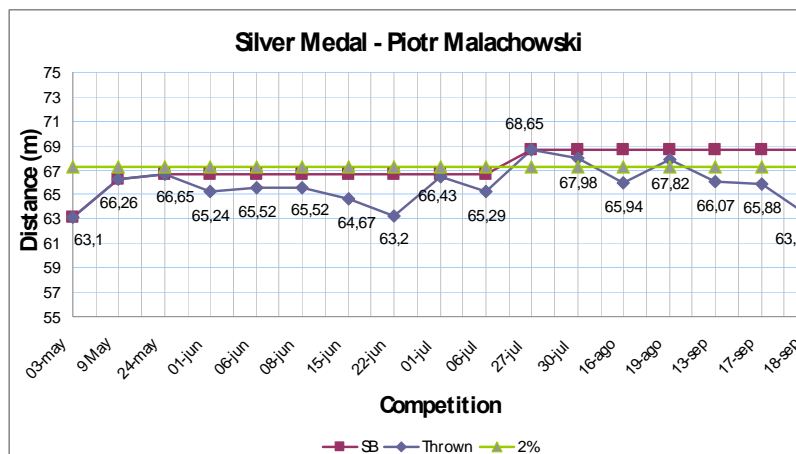


Kanter has won the gold medal at the 2007 World Athletics Final in Stuttgart with a throw of 66.54, the silver in 2006 in Stuttgart (68.47) and in 2005 in Monaco (66.01), and finished fifth in 2004 in Monaco (63.28). Kanter is currently ranked first on the World List.

He participated in the 2008 Beijing Olympics, taking gold with a throw of 68.82 m, one meter ahead of

second-place finisher. As the figure shows he has participated in more than 20 competitions this year. He started his season with a throw of 64.8 m on 18th February throwing soon a SB of 71.88 m on 8th May in Salinas, CA. Kanter has thrown twice within his SB 2% range, overcoming the 70 m 3 times this year.

Piotr Malachowski (POL), born in 1983 participated for the first time in a international meet in March 2006, at the European Winter Throwing Cup in Tel Aviv, where he won throwing 65.01. He also placed sixth (64.57) in the European Championships, in Gothenburg. At the 2007 WC's in Osaka he placed 12th, with his worst result of the season (60.77).

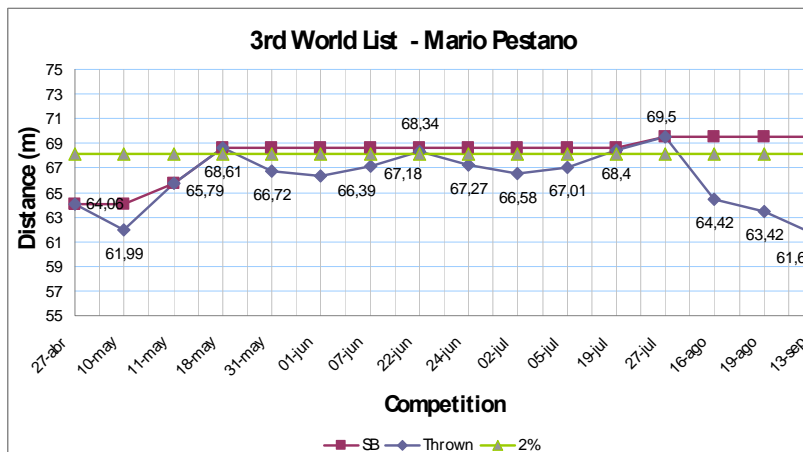
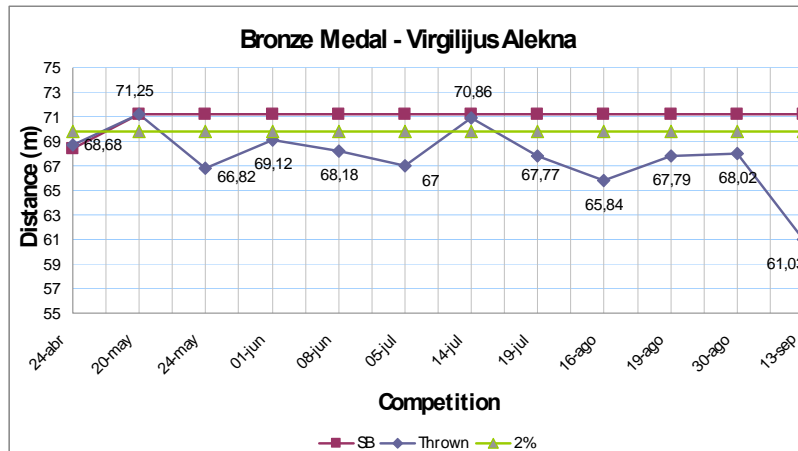


Malachowski started this season throwing 63.1 on 3rd May. He has competed this year in 17 occasions achieving his SB (and also a NR and PB) of 68.65 on July 27th in Sidlo Sopot. In the Beijing

Olympics he threw 67.82 m, his third best result this year taking the silver medal. Malachowski ranked 7th on the World List, has performed three times within his SB 2% range.

Virgilijus Alekna (LTU), born in 1972 has won the gold medal at the 2000 and 2004 Olympics. His previous successful world performances include gold medals in 2003 and 2005 World Championships and silvers at 1997 and 2001 World Championships.

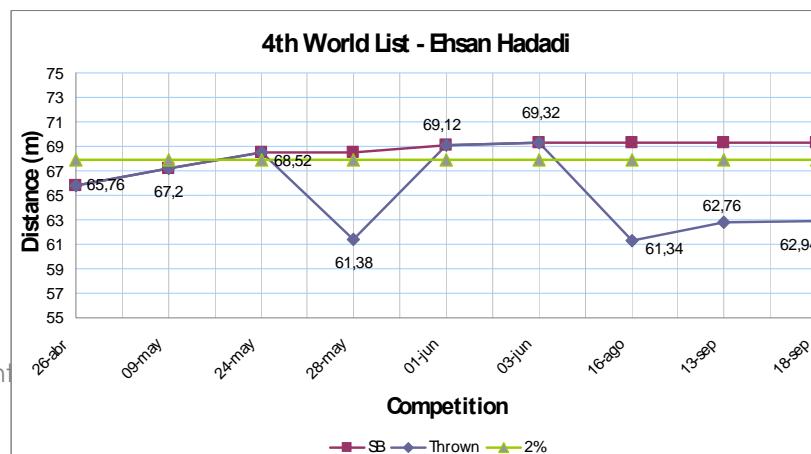
Alekna's PB was achieved in 2000 which reached a distance of 73.88, being the second best in history. He started the season with a throw of 68.58 and achieved his SB on 20th May with a distance of 71.3. He threw 67.79m at the Beijing Olympics receiving the bronze medal. He has competed 12 times this year, and twice within his SB 2% range. His second farthest throw was 70.86 and his worst throw on September 13th with a distance of 61.03. He is currently ranked second on the world list.



Mario Pestano (SPA), born in 1978, reached his PB (also his SB) this year on July 27th with a mark of 69.5 in Santa Cruz de Tenerife. He started the season with a throw of 64.06 (April) throwing his eight Spanish Discus record of the season (68.61) on 18th May. Pestano has competed this year in 16 competitions and performed 4 times within his SB 2% range.

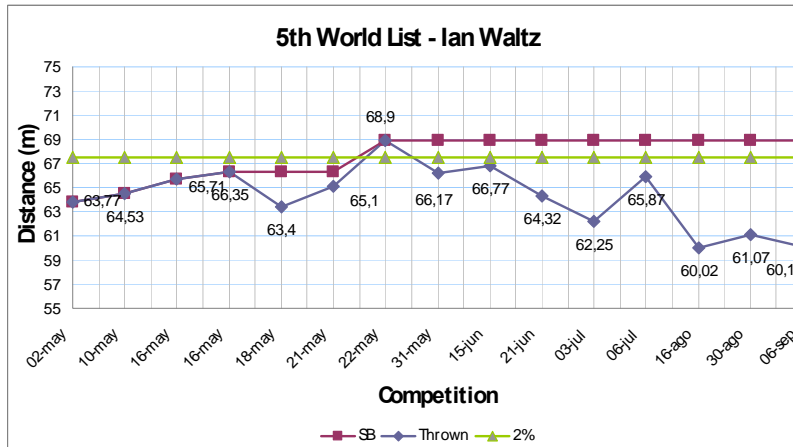
He participated at the Beijing Olympics placing 9th throwing a distance of 63.42. Pestano is currently ranked 3rd on the World List. His worst performance was last September 13th with a throw of 61.67m.

Ehsan Hadadi of Iran was born in 1985. His first successful international performance was in 2004 where he won the gold at the IAAF World Junior Championships in Grosseto when he was 19. Currently he is ranked 4th on the world list, but did not



advance to finals at the 2008 Beijing Olympic. This season he has competed in 9 competitions and reached his SB of 69.3 on 24th May, he was three times within 2% of his SB. Hadadi's season started on the 26th of April with a throw of 65,76m, about a month later he had the seasons lowest throw of 61.38m after getting the worst throw out of the way, he continued to improve reaching 2 SB performances in a row, but did not keep up the good momentum into the Olympic Games.

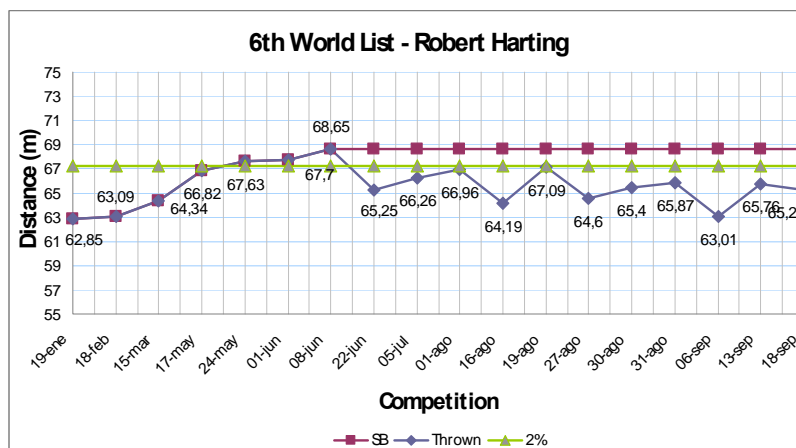
Ian Waltz (USA), born in 1977, is currently ranked 5th on the world list. His personal best mark was achieved in 2006, reaching a distance of 68.91. Waltz has also won a bronze medal at the 2006 World Cup, and was fifth at the World Outdoor Championships in Helsinki, Finland. Waltz has competed in 15 competitions this season and reached his SB on May 22nd by throwing a distance of 68.9m. As the trend in the graph reflects his performance has been declining towards the end of the season apart from the performance on 6th July



of 65.87m. Waltz, who has failed to be within in the 2% range of his SB, took part in his second Olympic Games in Beijing, but unfortunately did not advance to the final.

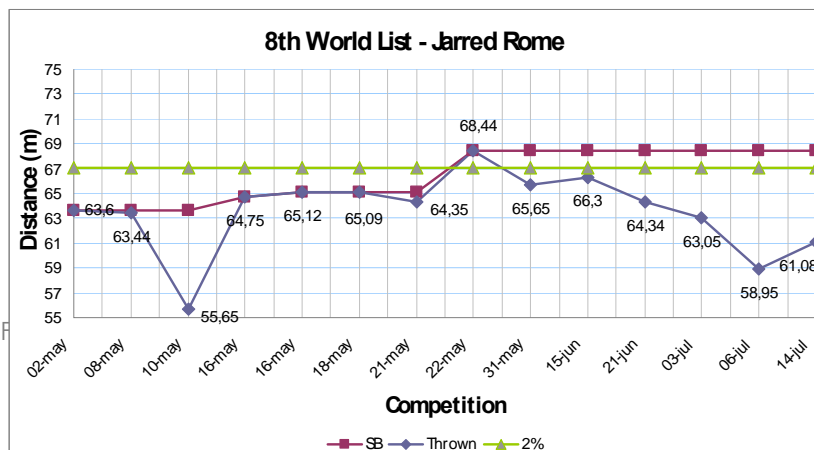
of 65.87m. Waltz, who has failed to be within in the 2% range of his SB, took part in his second Olympic Games in Beijing, but unfortunately did not advance to the final.

Robert Harting (Germany), born in 1984, is one of the youngest discus throwers on the world scene, and had an amazing Olympic debut this year in Beijing by securing a 4th place position. He won silver medals at the European Cup and World Championships in Osaka 2007 and in 2001 and was also 2nd at the World Youth Championships in Debrecen. This year Harting has competed in 18 competitions and he has reached his season's best also his personal best at Kaunas on June 8th with a mark of 68.7. He is currently ranked 6th on the world list. Harting's season began January 19th with a mark of 62,85m and his performance kept improving until he peaked in June where he reached his PB of 68.7m. Three of his performances have been within the 2% of the SB performance.



Debrecen. This year Harting has competed in 18 competitions and he has reached his season's best also his personal best at Kaunas on June 8th with a mark of 68.7. He is currently ranked 6th on the world list. Harting's season began January 19th with a mark of 62,85m and his performance kept improving until he peaked in June where he reached his PB of 68.7m. Three of his performances have been within the 2% of the SB performance.

Jarred Rome (USA), born in 1976, is the second American in the top 8 of 2008, and has competed in 14 competitions this season. Rome started the season on May 2nd with a throw of 63.6

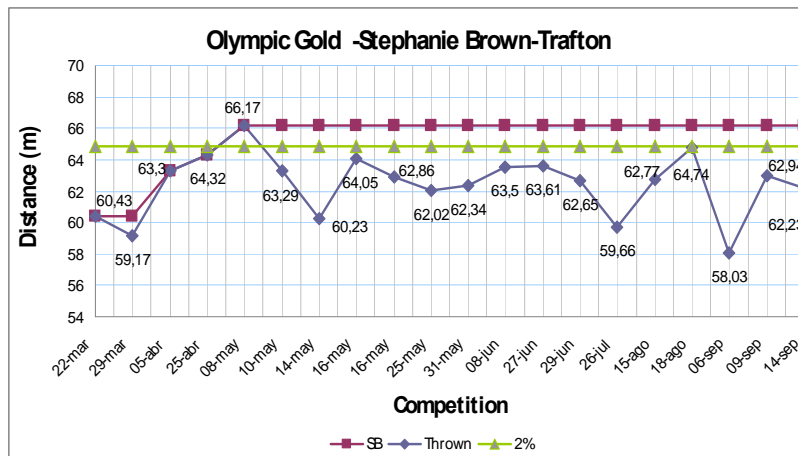


m. About a week later he had the season's worst throw of 55.65, but then continued to improve until May 22nd when he reached his personal best of 64.8m. Rome participated in his second Olympic Games this year in Beijing, but did not advance to the qualification round. He has failed to be within the 2% of his PB at any other event this season throwing twice below 60 m.

DISCUSS THROW – SENIOR FEMALE ATHLETES

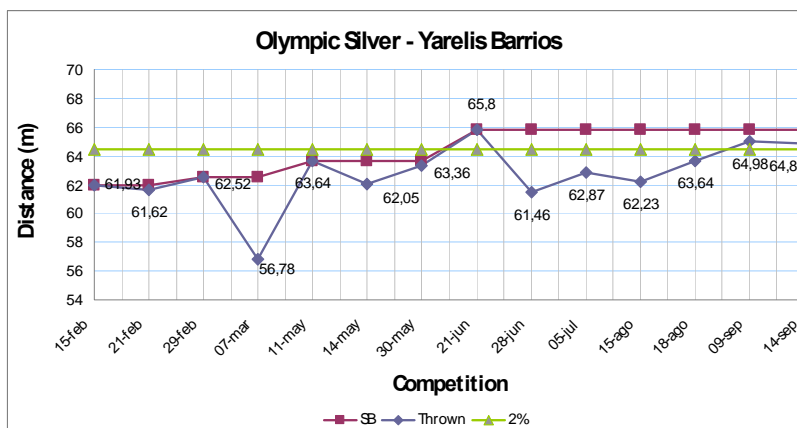
Within the top 8 female discus throwers five different countries are represented, with four athletes from European countries. There are three countries with more than 1 athlete (Russia, Cuba and the USA each have 2) in the top 8 list. Three athletes had their personal best performance during the 2008 season. One athlete reached SB in May, three in June, two in July, and one in August and in February, respectively.

Stephanie Brown-Trafton (USA) is a two time Olympian. Currently ranked 3rd on the world list, Brown-Trafton's career highlight was winning the gold medal at the Olympic Games in Beijing. Her seasons best also her personal best of 66.17m was achieved this year on May 8th in Salinas CA. During this season she has participated in 20 events, the most out of the top 8



females. She has thrown only three times below 60 m, however, she was only once within the 2% of her SB. Brown-Trafton is unique because she has never qualified for the World Championship nor won a major national championship.

Yarelis Barrios (CUB) had an amazing Olympic debut this year where she won the silver medal. During 2007 Barrios was victorious at the Pan American Games and the World

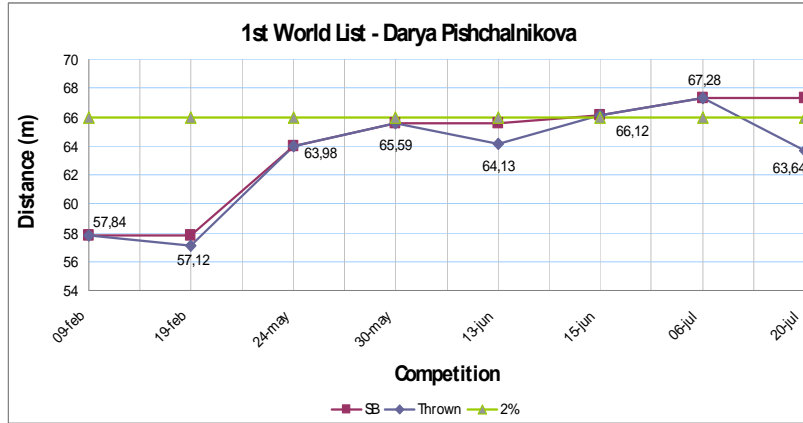


University Games, and at the World Championships in Osaka she secured Cuba's first medal of the meet by obtaining a bronze. This season she has competed in 14 competitions throwing only once below 60 m on 7th May. Barrios reached her seasons' best also her personal best on 21st June in Bilbao with a throw of 65.8. Ranked 5th on the world list, Barrios was within

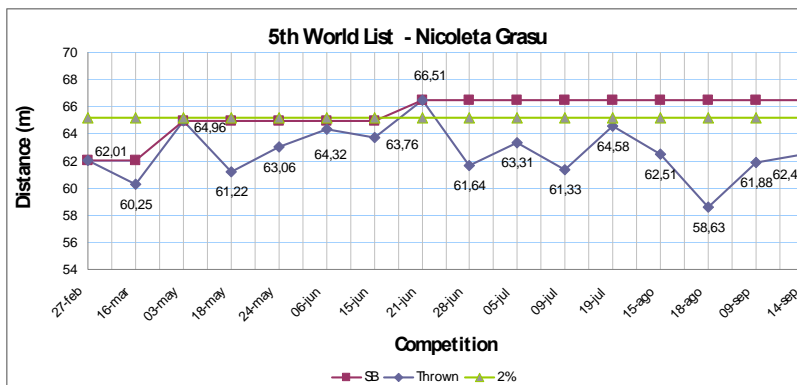
the 2% of her SB in two events on 9th and 14th September.

Olena Antonova of the Ukraine was born in 1972. She seems to have only competed in one event this season, in which she secured herself a bronze medal at the Olympic Games in Beijing with a throw of 62.59m. She threw her personal best of 67.30m on 6 June in Kyiv. Antonova is not currently ranked on the world list.

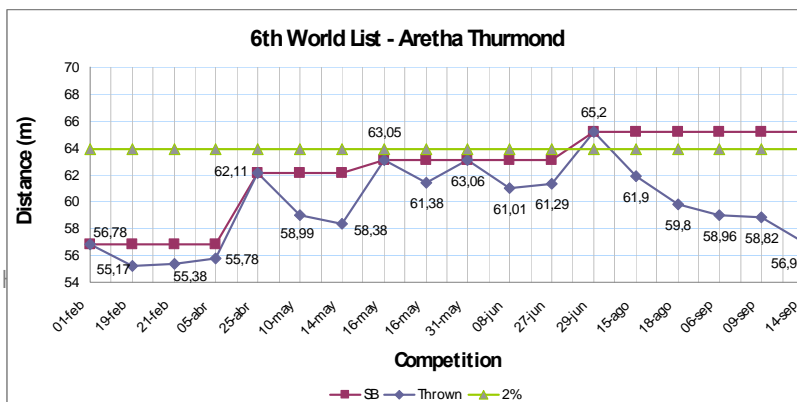
Darya Pishchalnikova of Russia, is currently ranked 1st on the world list. She was born in 1985, making her one of the youngest competitors in discus on the world scene. At the 2007 World Championships last year in Osaka she won the silver medal. Due to doping test irregularities Pishchalnikova did not compete in the Beijing Olympic Games. This season she has competed in 8 events, with her first throw of 57.84m on 9th February. Since the start of the season she has thrown further each competition until she peaked and reached her personal best of 67.28m on July 6th in Tula.



Nicoleta Grasu of Romania, born in 1971 is currently ranked 2nd on the world list. In the past Grasu has won medals at the 1999 and 2001 World Championships, being sixth at the 2004 Olympic Games, fifth at the 2005 World Championships, and having won a bronze medal at the 2006 European Championships. She threw her personal best of 68.80 m on 7th August 1999 in Poiana Braşov. She has competed in 16 events this year having achieved her season's best of 66.51m on 21st June in Istanbul. She has only performed once below 60m on 8th August; but was also only once within the 2% of her SB not being able to advance to finals at the Olympic Games.



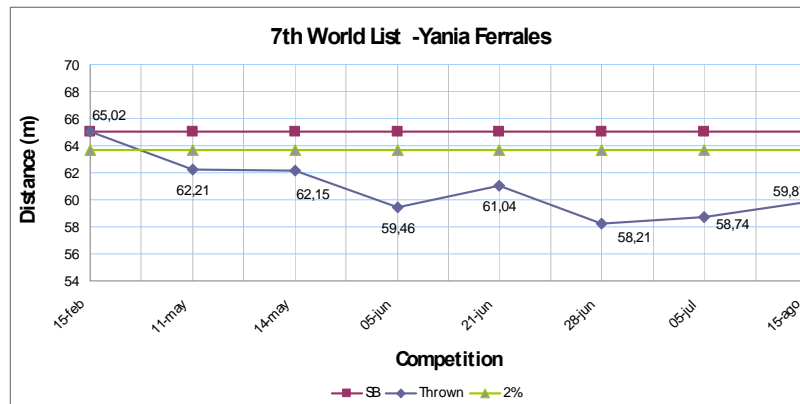
Natalya Sadova, born in 1972, is the second Russian in the top 8, currently ranked 4th on the world list. This year she has only competed in 3 events, after a 2 year ban for doping. Previously she has won the Olympic gold medal in 2004 in Athens, a silver Olympic medal in 1996 in Atlanta, and placed fourth in 2000 in Sydney. Her personal best was achieved in 1999 with a distance of 70.02 in Thessaloniki. She achieved her seasons best of 66.1m on July 11th in Moskva. After that she competed in the Beijing Olympics but failed to advance to the finals.



Aretha Thurmond of USA, born 1976, is currently ranked 6th on the world list. Thurmond has a personal best of 65.86 on 28th March

2004 (Marietta GA). She participated in 18 competitions this year, starting on 1st February with a throw of 56.78m. Her initial throws were less than 56m but Thurmond improved her performance throwing 62.11m on 25th April. The trend in Thurmond's performance has not been very consistent, however, after April all her throws until 18th August were above the 60m distance. She achieved her season's best of 65.2m on 29th June but failed to be within the 2% of her SB at any event. Thurmond's performance, which did not secure her a place in the finals at the Olympic Games, has been decreasing consistently throughout the remainder of the season.

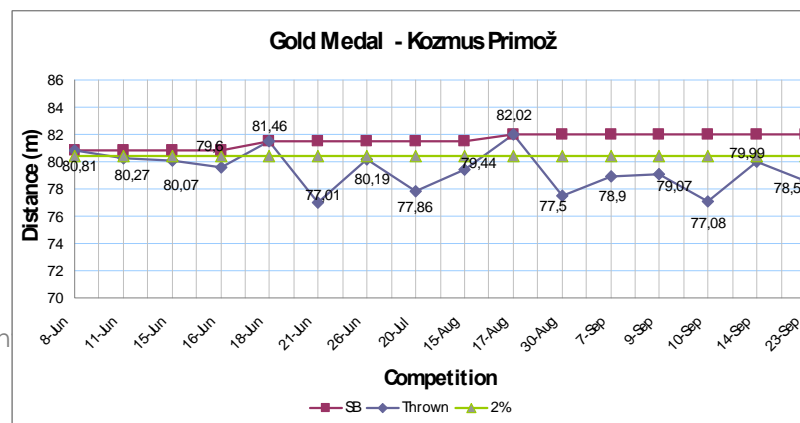
Yania Ferrales (CUB) born in 1977, is currently ranked 7th on the world list. Ferrales was 3rd on the 2003 Pan Am Games with a throw of 60.03. She achieved her personal best of 66m on 10th February 2006. She was second at the 2007 Pan Am Games with a throw of 61.71 m and 11th at the 2007 WC's in Osaka with a throw of 58.2. In 2008 she participated in eight events starting off throwing her season's best of 65.02 on 15th February. After that her throws have continued to gradually decrease in distance having failed to be within the 2% of her SB at any event. Ferrales participated at the Olympic Games but did not advance to the finals.



HAMMER THROW – SENIOR MALE ATHLETES

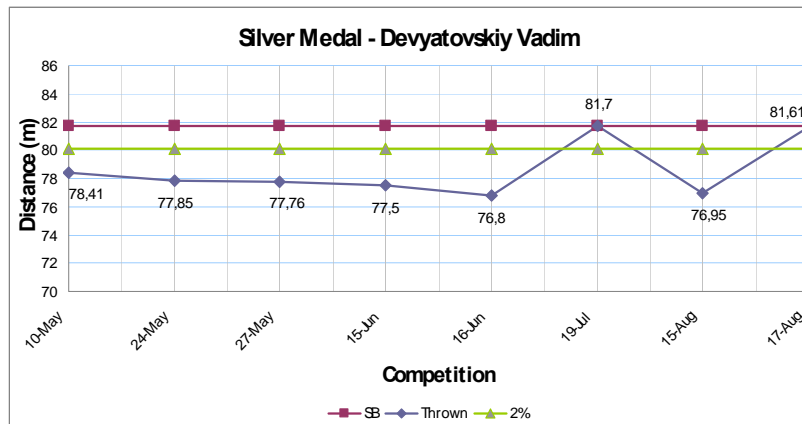
Five countries are represented within the top 8 male hammer throwers, being only one (Japan) not European. Seven athletes are Europeans, and four of them from Belarus – two Olympic (gold and silver) medalists. Only one athlete had his personal best performance during the 2008 season at the Olympic Games. Four throwers achieved their season best in July.

Primož Kozmus (SLO) born in 1979 has a personal best also a Slovenian record of 82.30 metres, achieved on 10th June 2007 in Poland. In 1998, Kozmus got the national junior record of 69.54m on 12th July in Nova Gorica. He was second at the 2007 WC's in Osaka with a throw of 82.29m and sixth at the 2004 Olympic Games in Athens with a throw of 78.56m. He participated in 16 events this year, starting the season with throws of over 80m. Ranking second on the world list, Kozmus



threw a season's best of 82.02m at the 2008 Olympic Games winning the gold medal – first gold medal in athletics for Slovenia. He was within the 2% of his SB in two events with all his throws after the Olympics below the 80m.

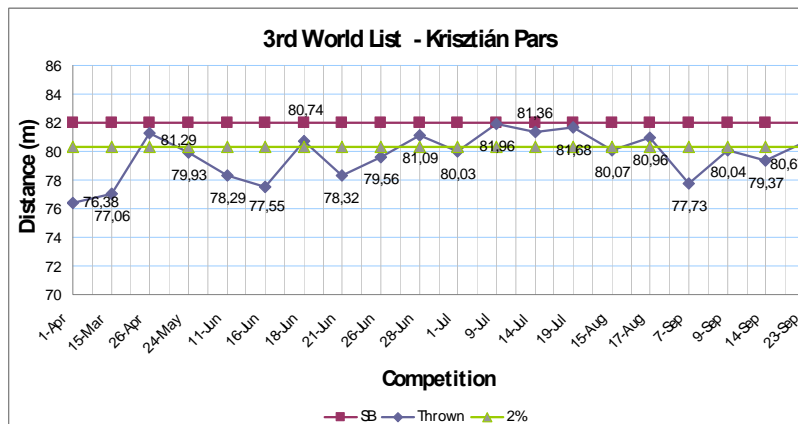
Vadim Devyatovskiy of Belarus born in 1977 finished fourth at the 2004 Summer Olympics with a throw of 78.82m. In 2005 he was second at the World Championships silver medal throwing 82.60m. In July 2005 Devyatovskiy threw his personal best of 84.90 m. Currently ranked 5th in the world list, he has participated in eight events



this year with throws below the 80m, until 19th July when he threw his season's best of 81.7m. He threw 81.61m at the Olympic Games winning the silver medal. That was the second time this year that he was within the 2% of his SB.

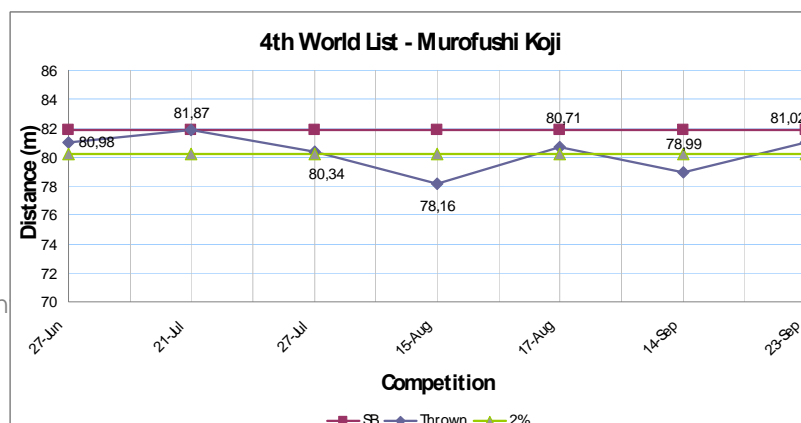
Ivan Tikhon (BLR) born in 1976 is first-ranked on the world list. Tikhon is a three-time world champion in 2003, 2005 and 2007 with throws of 83.03 meters, 83.89m, and 83.63, respectively. He was third at the Olympic Games in 2000 (79.17m) and second at the 2004 OG's in Athens (79.81m). Tikhon has a personal best of 84.46 metres, achieved in August in Minsk. He participated three times during 2008, and started off throwing his season's best of 84.51m on 9th July in Grodno. He threw 79.26 on July 15th and finished third at the 2008 Olympic Games with a throw of 81.51 m.

Pars Krisztián (HUN) born in 1982 ranks 3rd on the world list with a personal best of 82.45 m, September 2006. He holds the 2001 world junior record (6 kg) with a throw of 81.35m in September 2001. He was fifth on the 2007 WC's in Osaka with a throw of 80.93. This year he participated in 20 events starting the season with a throw of 76.38.

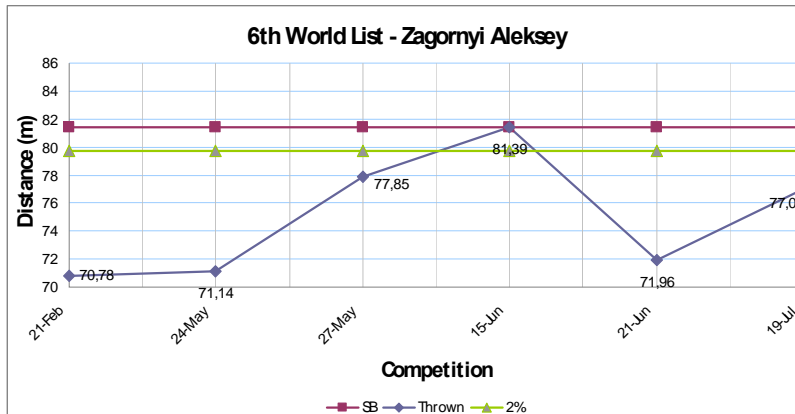


He had his season's best of 81.96 on 9th July and participated at the Olympics throwing 80.96m securing a fourth place. He was 10 times within the 2% of his SB and still throwing distances over the 80m towards the end of the season.

Koji Murofushi (JPN) born in 1974 is a two-time winner of the Asian Games in High Performance Management



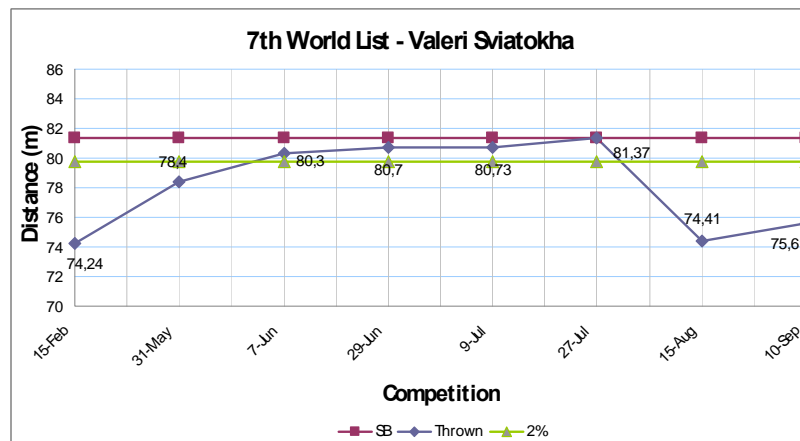
1998 and 2002 with throws of 78.57m and 78.72m, respectively. Ranked 4th on the world list, Murofushi won the gold medal at the 2004 Olympic Games in Athens with a throw of 82.91m and finished ninth at the 2000 Olympic Games. He was in third place at the 2003 World Championships, same year when he threw his personal best of 84.86 m the longest hammer throw in over ten years. This year, Murofushi participated in seven competitions throwing his seasons' best on 21st July. He placed 5th at the Olympic Games with a throw of 80.71m. He was 4 times within the 2% of his SB.



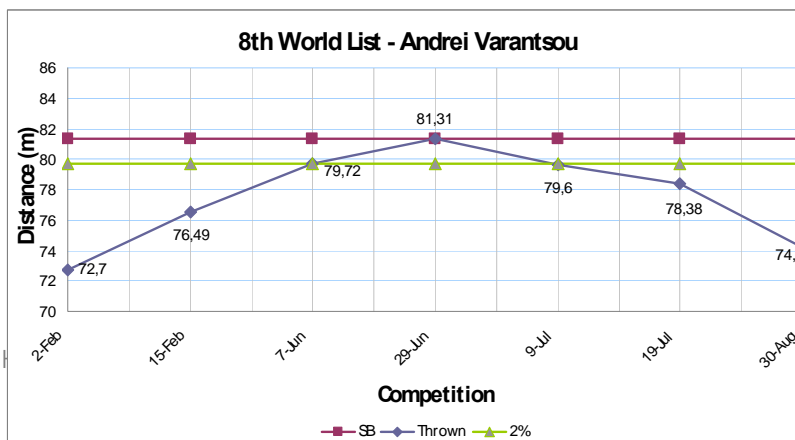
Aleksey Zagorny of Russia, born in 1978 has a personal best of 83.43 m, achieved in February 2002. He participated in six events this year, starting the season with throws below the 80m. He only reached farther than 80m once on 15th June with a throw of 81.39 his season's best. He failed to be within the 2% of his SB at any other event.

Zagorny did not participate at the Olympic Games.

Valeriy Sviatokha of Belarus born in 1981 won the bronze medal at the 2005 Summer Universiade with a throw of 74.71m. Sviatokha threw his a personal best of 81.49m in May 2006 at the Blr Cup in Brest. Ranked 7th on the world list, this year he has participated in eight competitions. The progression of his performance reflects and inverted U. He started the season with throws under 80m, and then performed consistently over June and July with throws over the 80m distance and reaching his season's best on 27th July, after which there is a decline towards then end of the season. He was within the 2% of his SB in three events.



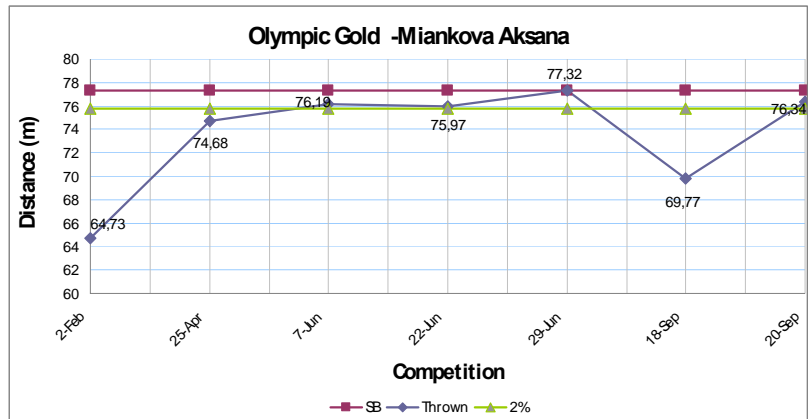
Varantsou Andrei (BLR) born in 1975 finished 7th and 8th at the 2001 and 2003 Summer Universiade Games with throws of 73.69m and 65.81m, respectively. He also participated at the 2005 World Championships and 2006 European Championships however he did not reach the finals. This year, he has participated in seven events throwing his



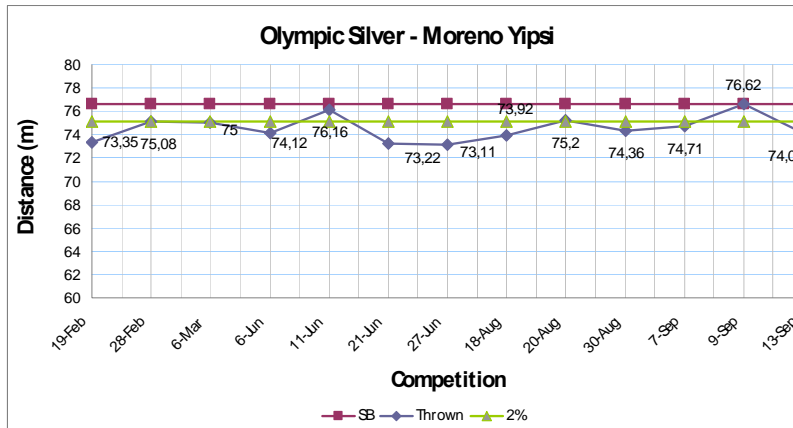
season's best also his personal best of 81.31m at the Olympic Prizes on 29th June in Minsk. The trend in his performance reflects and steady improvement from the beginning of the season and a gradual decline after his SB in June toward the end of the season. He failed to be within the 2% of his SB having thrown only once farther than 80m this year.

HAMMER THROW – SENIOR FEMALE ATHLETES

Within the top 8 female hammer throwers six different countries are represented. Four countries are European, with Belarus and Russia being represented by two athletes each. Four throwers had their personal best performance during the 2008 season. Aksana Miankova (BLR) born in 1982 is currently the first on the world list. Miankova was second at the 2007 European Cup with a throw of 73.03m. During 2008, she has participated in seven competitions starting off in February with a 64.73m throw. Her performance steadily improved along June when won the European Cup with a throw of 75.97m on 22nd June. A week after that Miankova won the Olympic Prizes in Minsk throwing her season's best also a personal best and national record of 77.32m. She could not keep up such performance during the finals at the Olympic Games which, however, she won with a throw of 69.77m.



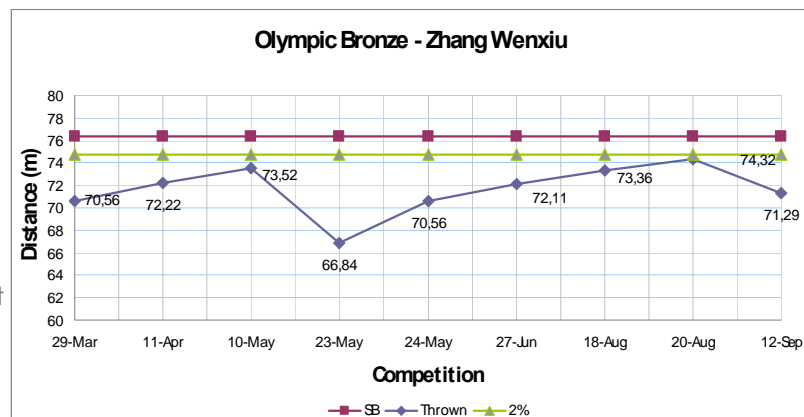
Yipsi Moreno González (CUB) born in 1980 is currently ranked third on the world list. She has won the 2001 and 2003 World Championships, and the 2003 and 2007 Pan Am Games.



Moreno participated at the Olympic Games in 2004 and 2000 with second and fourth positions, respectively. This year, she participated in 13 events being her shortest throw of 73.11m. She participated at the Olympic Games with a throw of 75.2m she won the silver medal. Moreno threw a season's best also personal best and area record of 76.62m on 9th

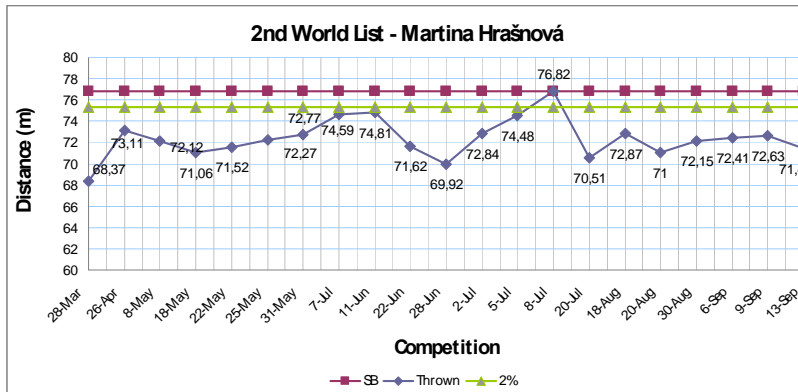
September in Zagreb. She was within the 2% of her SB in two events.

Zhang Wenxiu (CHN) born in 1986 has won the 2005 Asian Championships and 2006 Asian Games. She was third at the 2007 World Championships with a throw of 71.31m. Currently



the 12th on the world list Wenxiu has a personal best (also area record) of 74.86m on August 2007. This year she has participated in 9 events finishing in the first positions in most of them. She threw the season's best with a distance of 74.32 at the Olympic Games in Beijing taking the bronze medal. However, she failed to be within the 2% of her SB at any competition.

Martina Danišová-Hrašnová (SVK) born in 1983 ranks second on the world list. During 2008,

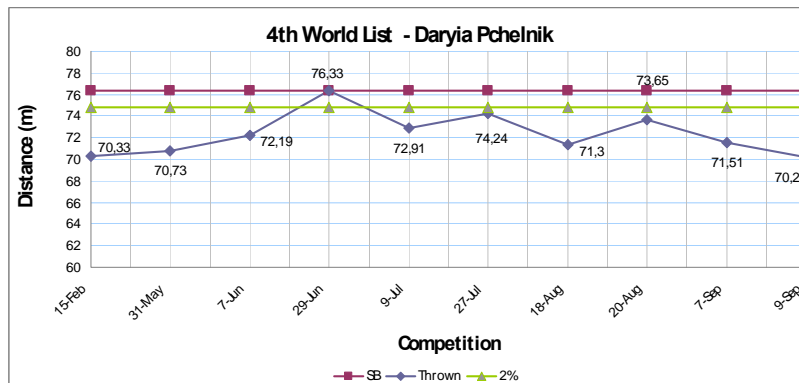


she has participated in 21 competitions and improved her performance until June 11th when she threw a national record of 74.59m. One week after that she broke the national record again with a throw of 74.81m. After that there was a decline in her performance with a throw of 69.92m. She threw her

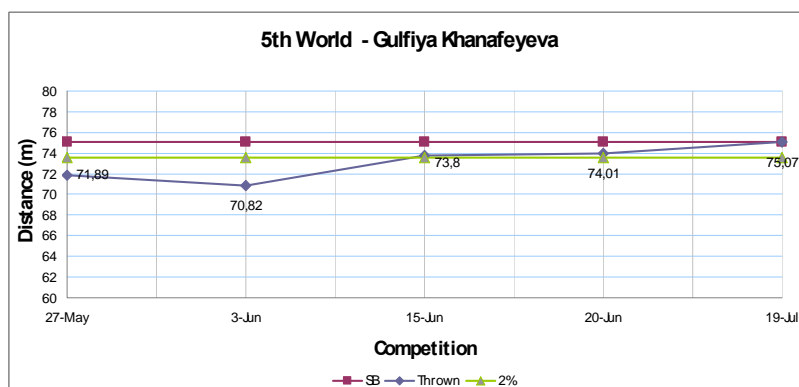
season's best, also personal best and again national record of 76.82m on 8th July this year in Reims. She finished eighth at the 2008 Olympic Games with a throw of 71. She failed to be within the 2% of her SB at any other competition.

Darya Pchelnik (BLR) born in 1981, ranks fourth on the world list. During 2008, she has

participated in 10 competitions winning 4 of them. She started the season with a throw of 70.33m and gradually improved until reaching the seasons' best and also her personal best of 76.33m at the Olympic Prizes in Minsk on 29th June. After that there was a decline in her performance, however, she managed to throw 73.65m at the Olympic Games placing in 4th position. She failed to perform within the 2% of the SB.

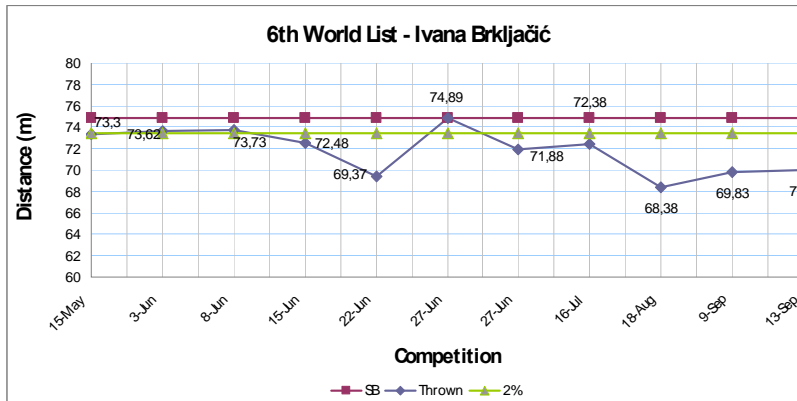


Gulfiya Raifovna Khanafeyeva (RUS) born in 1982 ranks 5th on the World List. She broke the World record in 2006 with a throw of 77.26m on 12th June in Tula. In 2006, she also won the silver medal at the 2006 European Championship with a throw of 74.50 m. Khanafeyeva personal best is 77.36m, which she achieved in May 2007. This year, she has participated in 5 events being on the medals in all of them. Her last throw of the season was also her season's best (75.07m) in July. She



has been within the 2% of her SB in one event. Khanafeyeva qualified for the Olympic Games but was later suspended by the IAAF, due to doping test irregularities.

Ivana Brkljačić (CRO) born in 1983 ranks 6th on the world list. In 2000 she broke the national junior record with a throw of 68.18m. She would break the national record again in 2005,

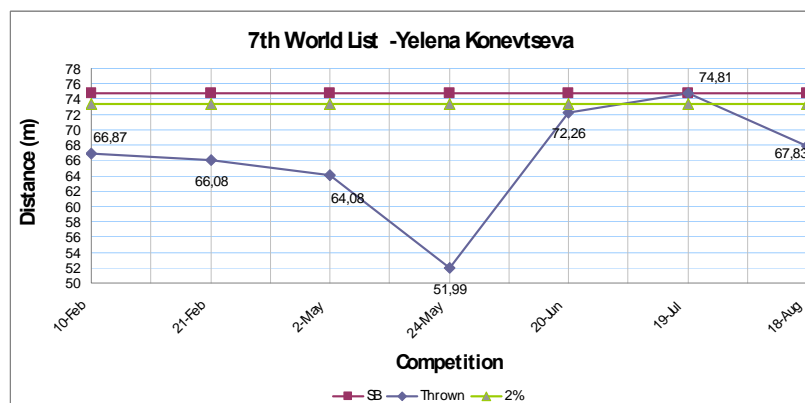


2006, and 2007 with throws of 71m, 71.34m, and 75.08 respectively. The latter throw being also her personal best, achieved on 17th June in Warsaw. This season, she has participated in 11 competitions being in first and second positions in 8 of them. Her performance had experienced a steady decline until June 22nd

when she threw 69.37m, but still winning at the EC's in Istanbul. A week after she threw her season's best of 74.89m. Brkljačić participated at the Olympic Games, however, failed to qualify with a throw of 68.38m, her worst of the season. She was within the 2% of her SB in two competitions in June.

Yelena Konevtseva (RUS) born in 1981 has a personal best of 76.21m which she achieved

in May 2007. Ranking 7th on the world list, Konevtseva has participated this year in 7 competitions. She started the season with a throw of 66.87m, and suffered a steady decline in her performance until 24th May when she threw 51.99m her worst this year. After that, her throws drastically improved until she reached her season's best of 74.81m

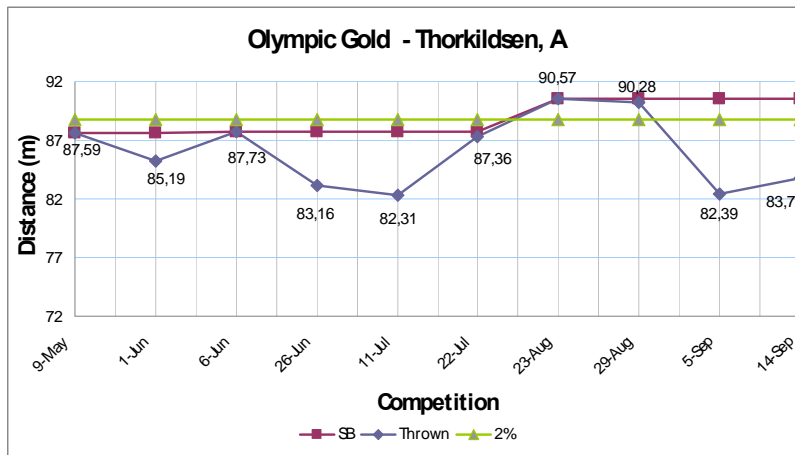


in July. She participated at the Olympic Games qualifying with a throw of 67.83m.

JAVELIN THROW – SENIOR MALE ATHLETES

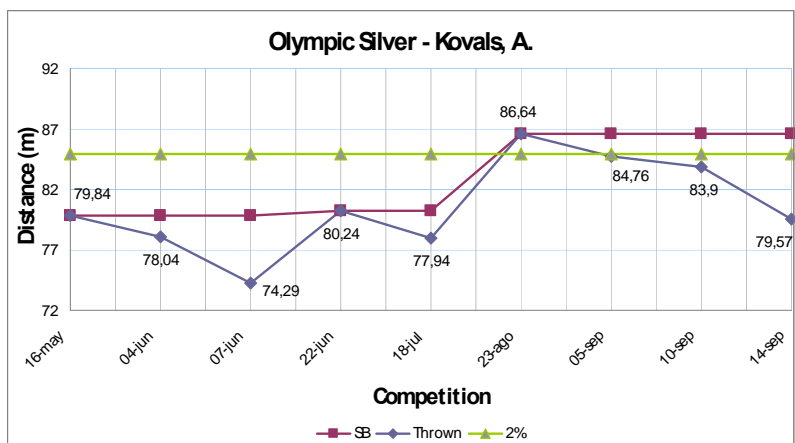
Within the top 8 male javelin throwers six different countries are represented, with six athletes being from European countries. Finland is the only country that has more than 1 athlete (3) in the top 8 list. Five athletes had their personal best performance during the 2008 season. The top two athletes reached their 2008 SB at the Beijing Olympics, while all other athletes seem to fail to find their form during the Games. The silver medal was actually won by the 9th furthest distance thrown in 2008.

Andreas Thorkildsen (NOR), born in 1982 is the World Junior Record Holder. He won gold in 2004, 2008 Olympic Games, and 2006 European Championships, while only grasping Silver



in the last two World Championships. Thorkildsen threw his personal best also a national record of 91.59m in Oslo in June 2006. The trend in his performance during 2008 follow a steady improvement towards the Olympic Games when he threw a season's best of 90.57m. This season he competed a total of 10 competitions, and thrown only once (apart from the

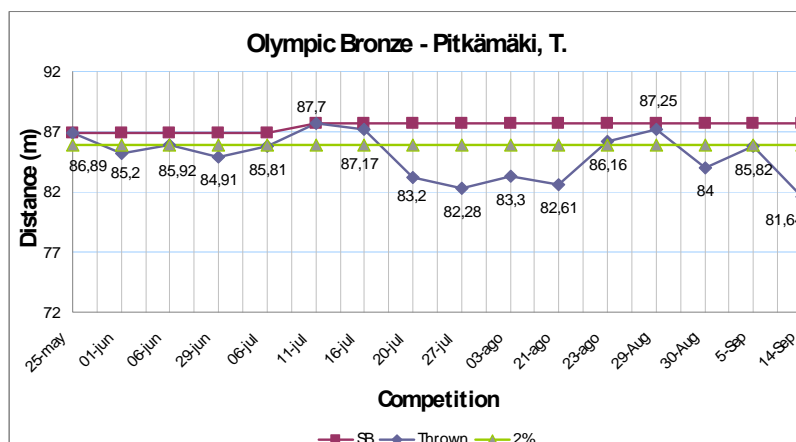
Olympics) within the 2% of his season's best. This season he has won 6 meets and been second in two.



Ainārs Kovals (LAT), born in 1981 was the only Latvian who won a silver medal at the Beijing Games. He had his Senior Debut in 2004. In 2007, he finished 3rd at the University Games after losing to fellow Latvian rival Vadims Vasilevskis, 9th ranked Javelin Thrower for 2008. Kovals surprised in Beijing by beating his previous personal best by over 4%. Performance post games

gradually declined as did the season. Kovals competed 9 times in 2008, and peaked at the Olympic Games with a distance of 86.64m. His performances have gradually improved in each season, although for the first time, in 2007, like many other top Javelin throwers, he failed to throw a personal best.

Tero Pitkämäki (FIN), born in 1982 ranked 1st in world for 2007 and 2005. He won gold at the WC in Osaka 2007 and silver at the European Championships in Gothenburg 2006. He also earned the title of Athlete of the Year by the European Athletics Association. During 2008, he competed 16 times, with seven 1st places, four 2nd and 3rd places,



respectively. His performance has been extremely consistent by throwing in four events within the 2% of his personal best. His best throw of the season was at the Gala event during July with a distance of 87.70m. However, he only won bronze at the Olympic Games with a throw of 86.16m. His best ever performance was in 2005 with a throw of 91.53m.

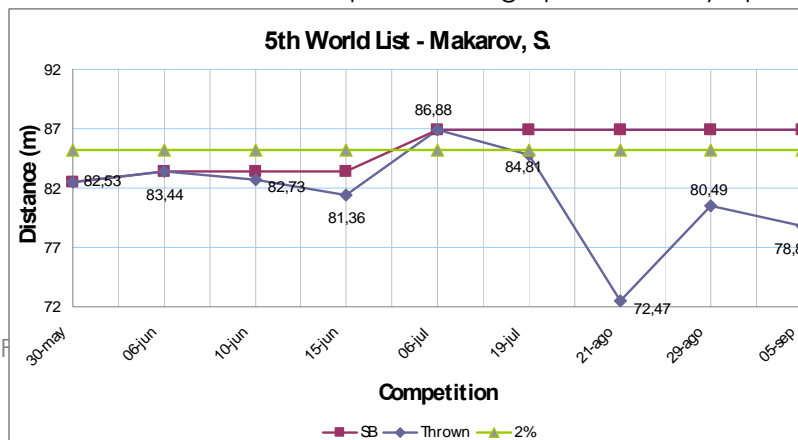
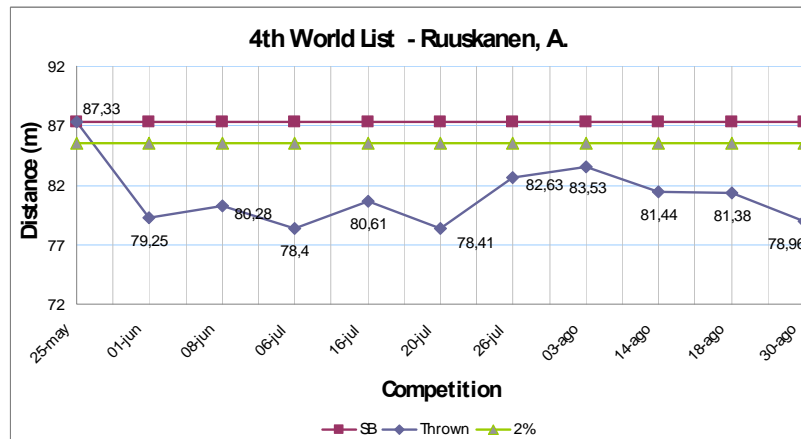
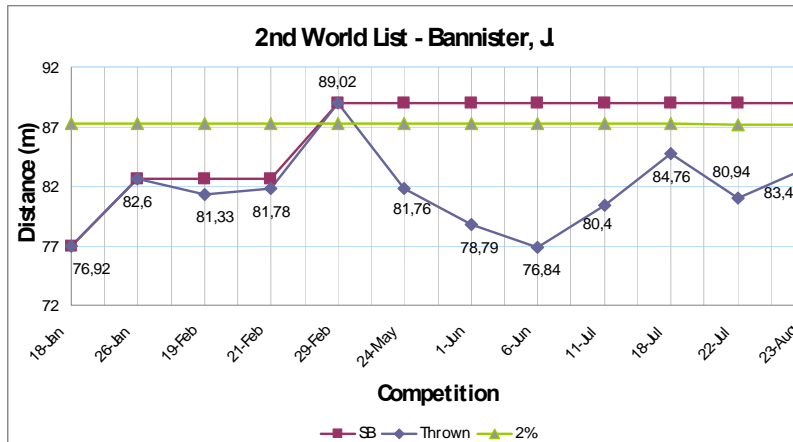
Jarrod Bannister (AUS), born in 1984 threw 89.02m during a Yellow Pages meet in Australia which is the 2nd furthest throw of the year. It is also a new Australian Record. When it came to the Olympics, he finished in 6th place with a throw of 83.45m. Ranked second on the world list, Bannister has yet to win a medal at a major championship. He has been competed inconsistently throughout all 12 meets during 2008. However, he is still making

year on year improvements.

Antti Ruuskanen (FIN), born in 1984 was the first Finn to beat Pitkämäki in four years during an early season meet at Kuortane where he threw 87.83m. He did not compete in Beijing, throwing during most of his 11 competitions in 2008 the javelin consistently around 81m. Ruuskanen failed to be within the 2% of his first throw and season's best. He was also 3rd in European Junior Championships 2003, and even though it appears that he is improving his overall performance, like many other Javelin throwers, in 2007 saw his first reduction in performance.

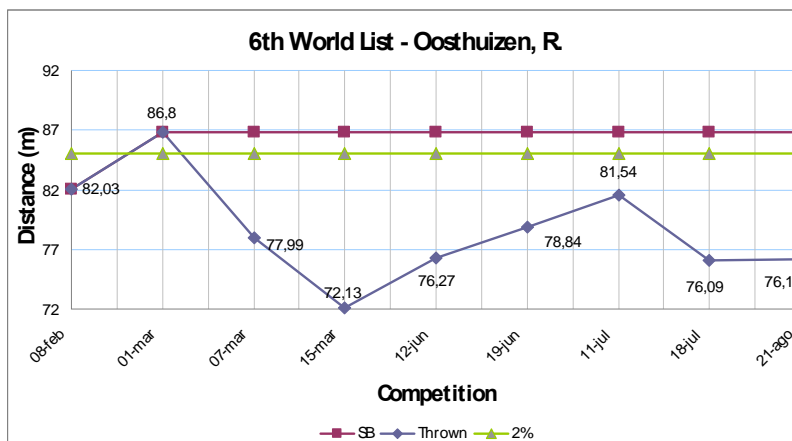
Sergey Makarov (RUS), born in 1973 was the world champion leading up to 2004 Olympics, but only won his second Bronze medal in Javelin after the Bronze medal of Sydney. At the 2003 World Championships he finally won gold at the age of 30 after a career competing with World Record holder Jan Zelenzy. In 2005 he won

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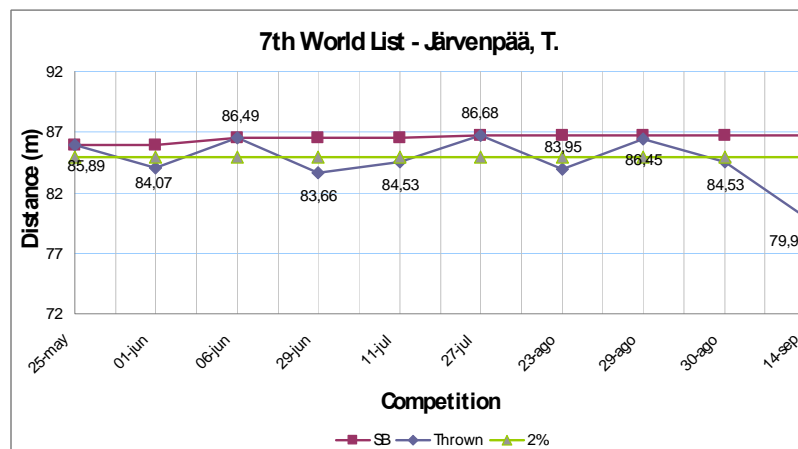
Bronze at the world championships and silver at the 2002 European Championships. In 2008, he competed nine times and reached his seasons best of 86.88m in Kuortane on 6th July. Makarov threw a distance of 72.47m at the Olympic Qualifiers. This was the worst performance during the season, and he failed to qualify for the finals. His overall performance has been declining since 2004 and his personal best and national record of 92.61m was set in 2002.

Robert Oosthuizen (RSA), born in 1987 won Gold at the World Junior Championships in 2006 and hit a personal best at the 2007 World Championships even though claiming only 6th place. He later surpassed that in 2008 on 1st March. He competed 9 times during 2008, including the Olympic Qualification round, where he failed to make the final with a throw of 76.16m. Oosthuizen's personal best was thrown at a National Championships on the 1st March with a distance of 86.80m. His overall performance has improved over the years



considering it is only his 4th competition as a senior Javelin thrower.

Tero Järvenpää (FIN), born in 1984 and coached by his father has finished 3rd in World Youth Championships 2001, 2nd in European Junior Championships 2003, 2nd at Universiade 2005, and just missed out on a medal in Beijing. In 2008, he competed 10 times, and is consistent as he has finished in 4 competitions within 2% of the season's best. He threw a personal best of 86.68m at a National Competition.

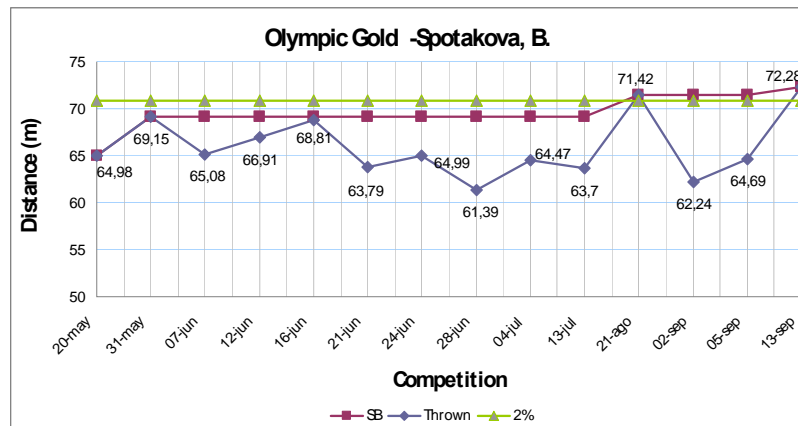


JAVELIN THROW – SENIOR FEMALE ATHLETES

Within the top 8 female athletes 6 different countries are represented, 5 athletes are from European countries. Germany is the only country that has more than 1 athlete (3) in the top 8 list. Six athletes had their personal best performance during the 2008 season. Five athletes reached their 2008 SB at or after the Beijing Olympics, with one athlete also breaking the 72m mark and set a new world record at the last event of the season – World Athletics Final. Two of the five athletes reached SB at the Olympics, while the other two

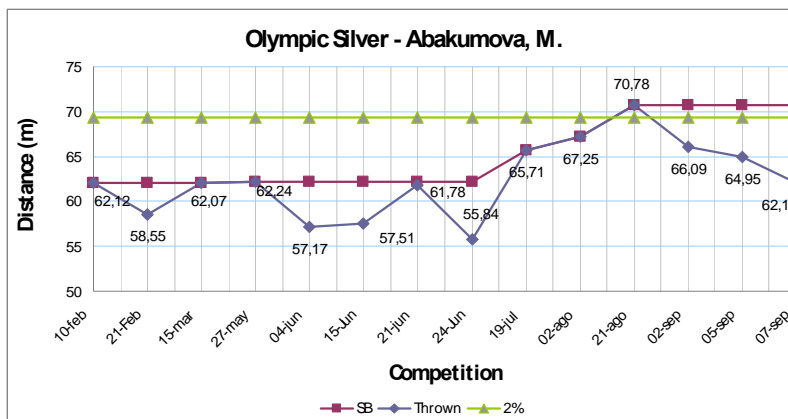
reached SB at the DBK Cup. Four athletes competed on the 21st June, each with low and short distances.

Barbara Spotakova (CZE), born in 1981 is the currently World Record Holder as well as Olympic and World Champion. She won silver at the 2006 European Championships, otherwise it would make her the undisputed Women Javelin thrower in the world. Her first taste of success came in 2005 when she won Gold at the Universiade Games. In 2008 she competed 14 times, and at the last event – World Athletics Finals, Stuttgart – on the 14th.



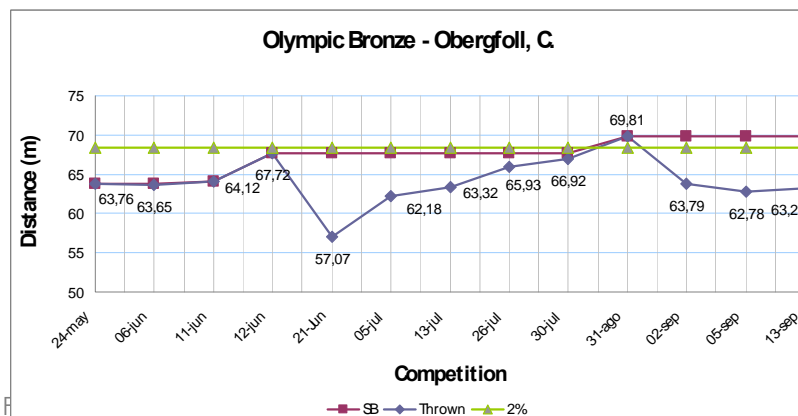
September, she became the first woman using the new Javelin to throw over 72m. She is still making improvements on her season's bests.

Mariya Abakumova (RUS), born in 1986. The Silver medal from Beijing was her first ever medal after coming in 4th place at the World Youth Championships in 2003. During 2008, she competed 14 times and landed 3 consecutive season's bests as she approached the Beijing Games, setting also her personal best and area record in 70.78m. After that her performance dropped with just a fast veracity as the improvements in seasonal performance. The



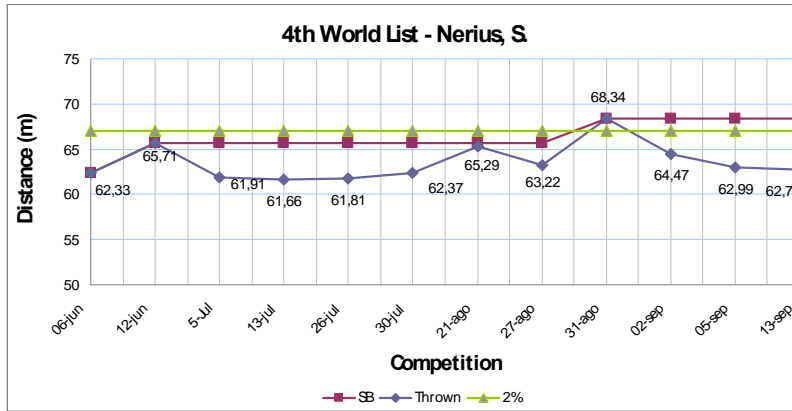
22 year old is constantly improving each season.

Christina Obergofoll (GER), born in 1981 won a Silver medal at the 2005 and 2007 World Championships. Obergofoll has competed 13 times during 2008 and peaked at the DKBCup on 31st August with a throw of 69.81m. This is still around 40 cm less than her personal best thrown a year earlier to



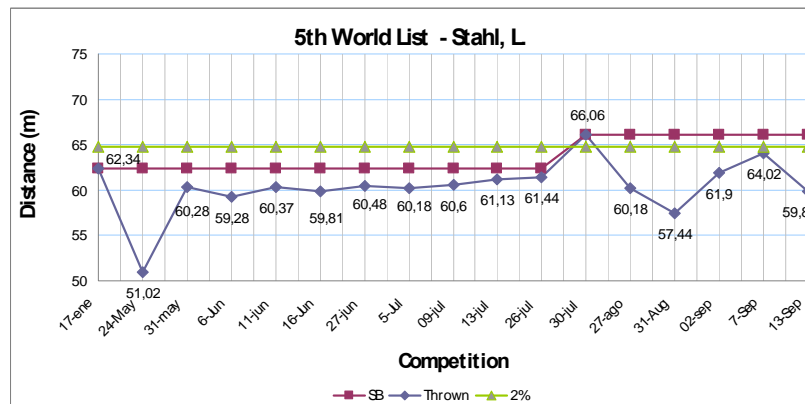
set a European Record of 70.20m. Her preparation for Beijing could not have been better, with 5 progressive improvements in the lead up to the Finals. Obergofoll won the Bronze from Beijing with a throw of 66.13m (not included in graph).

Steffi Nerius (GER), born in 1972 is the oldest Javelin thrower in the top 8. She currently holds the world record for over 35 year old athletes with a distance of 68.34m thrown at the DKBCup on the 31st August 2008. In Athens, she won silver, while at the 2006 European Championships she won gold. In the 2003, 2005, and 2007 World championships she won Bronze. Nerius competed 12 times through the course of 2008 and landed a 5th position in Beijing with a throw of 65.29m. Her season's best over the years

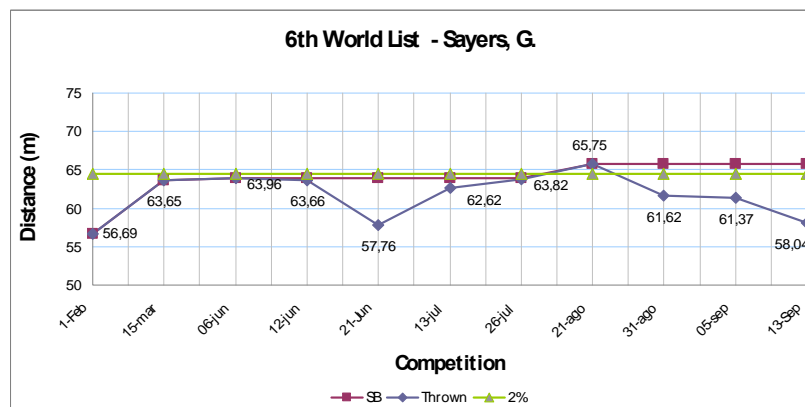


is still improving.

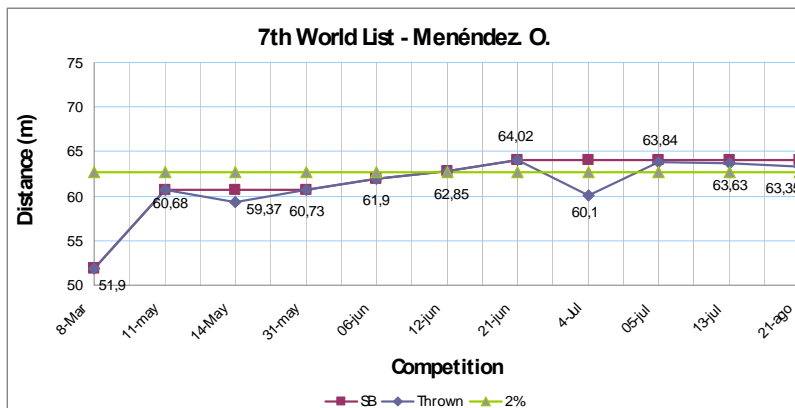
Linda Stahl (GER), born in 1985 competed 17 times during the 2008 season. In this time, she has thrown the 5th furthest throw in the world with a season's best of 66.06m. At the deadline if she had thrown another 2 cm and she would have qualified for Beijing. Her best placement was at the 2007 World Championships where she finished in 8th place, however her season's bests are forever improving.



Goldie Sayers (GBR), born in 1982 is currently ranked the 6th on the world list. She set a new career best and National Record at the 2008 Olympic Games with a distance of 65.75m and finished 4th overall. She competed 11 times during 2008 and has consistently thrown over 63.50m in the build up to the Games, but never within 2% of the season's best. She has been making improvements on season's best over the years.



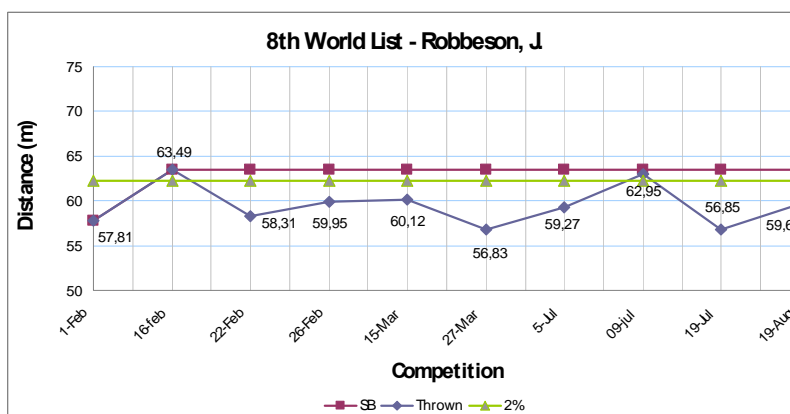
Osleidys Menéndez (CUB), born in 1979. At the 2008 Olympic Games, Osleidys was the world record holder, with a throw of 71.70m in 2005. That distance broke her previous record set in 2001 by 16 cm. She has an extensive medal count including a Bronze at the



2000 Olympic Games, Gold at the 2004 Olympic Games as well as Gold at the 2001 and 2005 World Championships. She only managed 6th place at the Beijing Games with a throw of 63.35m. She competed in 11 times during 2008, and threw her season's best on the 21st June in Bilbao with a throw of 64.02m. Next year will be interesting to

see if she can finally throw over 72m as her career cycle since 1999 is based on 4 year peaks in the year after the Olympics.

Justine Robbeson (RSA), born in 1985 won silver medal at the World Youth Championships in 2001. Robbeson also won gold at the World Junior Championships in Heptathlon, and gold in the African Championship for Javelin. At the Beijing Games, she threw a distance of 59.63m and failed to qualify for the finals, ending in 13th position. Her season's best was thrown quite early on in the season at Potchefstroom on the 16th February with a distance of 63.49m.



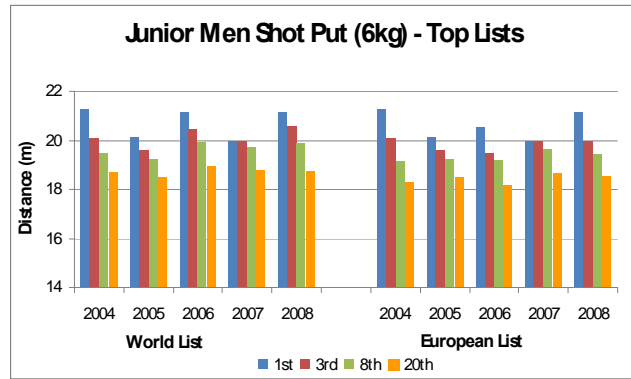
The 22 year old is making gradual annual

improvements and threw twice a throw within 2% of the season's best

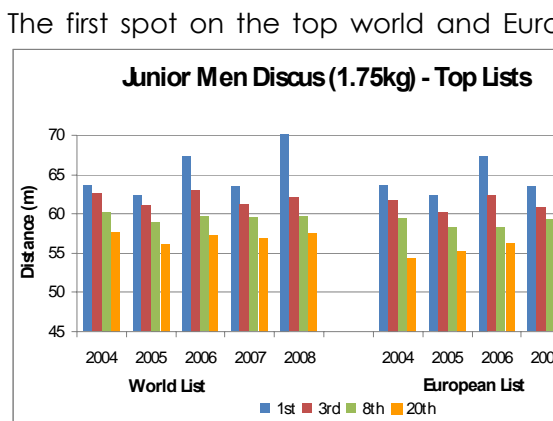
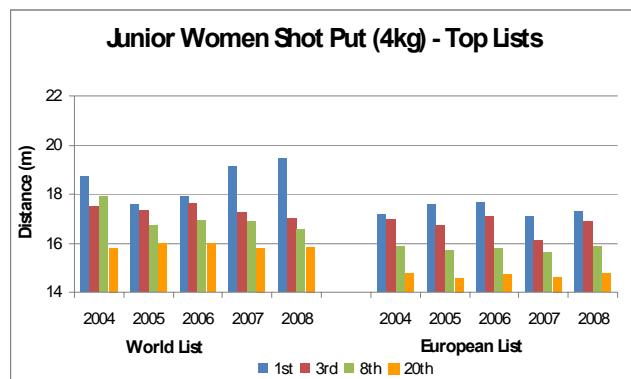
JUNIOR ATHLETES – WORLD AND EUROPEAN TOP LISTS

RESULTS FOR POSITIONS 1, 3, 8, 20 IN TOP LISTS

The standard in men's junior shot put has seen little difference between the World and European lists again because it would appear that this event is largely dominated by the European athletes. The peak throw was reached in 2004 at 21.24m and had fallen slightly over the next three seasons before increasing to above the 21.08m in 2008. However, we can see from the graph that the marks for 3rd, 8th and 20th place show the opposite trend in that the standard has moved from being homogenous in 2004 to there being a marked difference between the throws reached by World athletes in comparison to European.



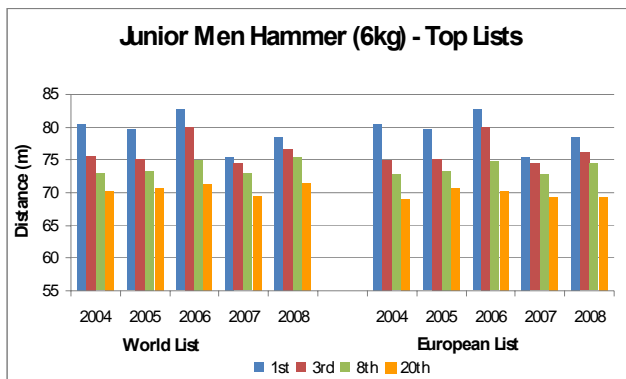
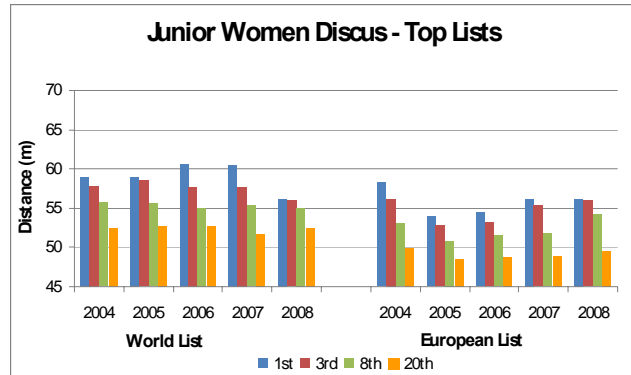
However, in the case of female throwers there is a dominance of non-European athletes. As the graph shows the marks for the first positions has increased over the years. However, the rest of positions (3rd, 8th, and 20th) had not followed the same pattern. In 2008, we can see the highest difference between 1st and 3rd positions. The situation for the European list is a bit different, reflecting a slight improvement of the marks during 2005 and 2006. None of the throws of junior female athletes have yet reached the 18m.



The first spot on the top world and European lists over the last 5 years is dominated by Europeans. The trend indicates an improvement towards 2008, where the distance reached was 70.13m. The highest difference between 1st and 3rd positions is shown in 2008, with a difference of 8.11 m for the world list. A similar trend is followed on the European list with a clear increase of the marks of the 20th spot. However, it seems that the marks are not increasing over the last three years. As the marks for the first positions increase so do the distances for

the spots below on the European List.

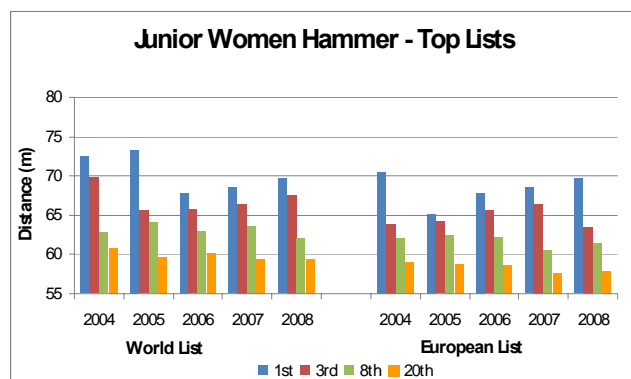
As for the female throwers we can see that the longest distances of the first positions on the world lists were thrown in 2006 and 2007. There is a steady decrement in the performance of the first spot with a difference of 0.14 cm to the mark of the 3rd position in the list this year. However, the distances thrown by the 8th on the list seem to remain quite stable over the 4 last years. The marks for the first position on the European list are however, in decrement. The highest distance of 58.26m was thrown in 2004. On the European Lists first place position has reached its highest in 2004 (58.26m). It then reached its low of 53.88m in 2005, and continued to increase every year (54.42m-2006, 56.16m-2007 and 56.03m-2008). Third, eighth and twentieth positions all seem to follow the trend of the first place position. Overall 2005 was the lowest year for distances thrown in positions 1st, 3rd, 8th and 20th. The distances thrown on the top 20 European lists are much lower than the distance on the top 20 World lists.



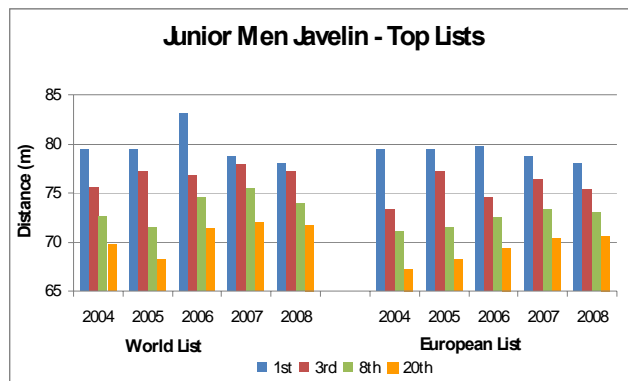
The standard in men's junior hammer throw is again largely dominated by the European athletes reflected by the small difference between the World and European lists. The highest throw was reached in 2006 with a distance of 82.62m. The difference between that throw and the distance reached the next year was 7.19m. However the marks for all selected positions on the world list have been improving along 2007 and 2008. The marks for 1st, 3rd, and 8th

positions on the European list have also been improved from 2007 to 2008. However, it seems that the difference between the 8th and 20th is bigger this year than the past.

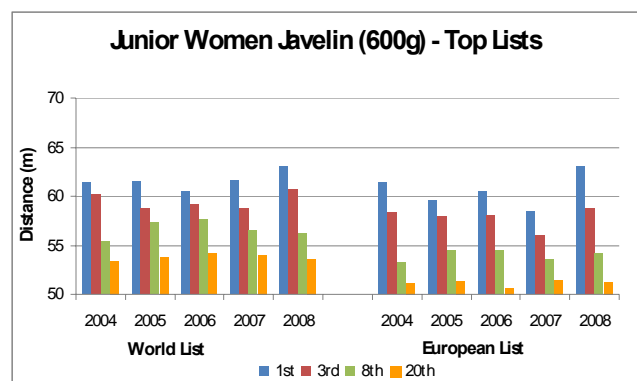
There is a difference of 4.08m between the marks of the throw of Aksana Menkova, first on the senior world list this year, and the distance of the first spot on the junior world lists in 2005. However, the distance thrown by the first position in 2006 was 5.45m lower. Over the past three years the marks for the first positions have been improving on the world as well as on European lists. On the other hand, the marks for the 20th positions decreased in the past 5 years on the European list, being the difference with the first spot of 11.77m in 2008.



As the figure shows there is hardly any difference in performances during 2007 and 2008 World lists. However, in the European list the overall distance thrown for the 20th distance has made gradual progressions year on year. Since the 2008 top distance was not much different than the 2007 distance set, the gap between the top 20 athletes has never been so little (6.3m). The distance thrown in the European List for 20th place is also increasing over the, while differences between the top 3 in the world list, are less than a metre. Junior athletes rarely ever compete at the same championships twice as they are either too inexperienced or too old to compete. This makes predictive analysis easier. We see in 2006 Robert Oosthuizen (RSA) threw incredibly, and is currently a top 8 athlete in the world. In 2003, both Teemu Wirkkala (80.57m) and Tero Järvenpää (80.43m) from Finland featured as juniors and are having successful senior careers. The similarities between the three athletes are that they all threw over 80m at the Junior Championships.



In the case of women javelin throwers, a new Junior World Record was set on the 10th July 2008. Vira Rebryk (UKR) threw her career best of 63.01m. In 2007, it was considered a poor year from Europeans Junior Women Javelin throwers. There were no European athletes in the top 3 and there were 5 Chinese athletes in the top 20 list. In 2006 there were 8 Chinese Junior Athletes in the Top 20 list. The differences thrown by the 20th position on the European list are significantly lower than with maximum difference from the first sport of 11.83m.



NUMBER OF COUNTRIES REPRESENTED IN THE TOP 20 LISTS

There is quite an even distribution pattern in the number of countries represented in the top 20 lists. We can see that different nations are well represented in both the World and European top 20. There has been little change in the numbers over the years and this suggests that this level is highly competitive and that it is very likely that athletes can emerge from countries that do not have a tradition in the discipline in the past. It peaked at 15 in 2004 and was at its lowest in 2007.

The number of European countries represented was quite high in 2004 at 12 but there was a significant drop off over the next 3 seasons suggesting that European athletes were struggling to produce top quality young shot putters. However, this trend has been reversed in 2008 with almost 75% of the Worlds top 20 being from a European nation.

The juniors follow a similar pattern to the seniors where there has been a spread of around 50% representation in the World for the from 2004 to 2007, however, there has an increase to 60% this year implying that perhaps there is a more even distribution emerging. The

trend in the European top 20 has differed in that it was becoming more even from 2004 up to 2006 where it reached its peak of 13 but is now becoming less dispersed suggesting that certain nations such as Belarus are beginning to leave others behind.

The number of countries represented for males in the top 20 World List has been irregular over the past 5 years. It started in 2004 with 13 countries, and increased to 15 in 2005, in 2006 it dropped to 13 countries and reached its low in 2007 with 9 countries, and finally in 2008 13 countries were represented.

The number of countries represented for males on the Junior European Lists is a little more homogeneous. In 2004 there were 15 countries, 2005 had 14, 2006 had 13, and 2007 and 2008 both had 15 countries.

The number of countries represented for females in the top 20 World list has increased from 8 countries in 2004 to 13 countries in 2007, in 2008 it then decreased to 12 countries again.

The number of countries represented for females on the Junior European Lists started with 8 countries in 2004, and then increased to 14 where it remained at through 2007. In 2008 the number of countries then decreased again to 13 different countries.

As for the javelin throw there are 5 Chinese women in the 2008 World Junior List. One of these athletes (Fu Lin) threw less this year to that of last year, and even though the Chinese have been part of the top 20 in Junior lists since middle of this decade, there are still absent from the top 8 list of senior athletes. In 2005, Juan Xue (CHN) threw the furthest distance for Junior Women Javelin (61.42m), while second furthest thrower was Mariya Abakumoya (RUS) who won the Silver Medal in Beijing. Juan Xue did not compete in the Beijing Games. The Chinese are failing to make the progression from Juniors to Seniors successfully.

		World List					European List				
		2008	2007	2006	2005	2004	2008	2007	2006	2005	2004
Shot Put	Men	14	16	17	14	15	13	14	13	13	14
	Women	12	8	9	10	10	10	11	13	12	11
Discus	Men	15	15	12	14	12	15	13	13	12	14
	Women	12	13	12	9	8	10	14	14	14	10
Hammer	Men	14	13	12	9	14	12	12	14	9	8
	Women	15	13	13	14	12	15	15	15	12	14
Javelin	Men	12	12	11	11	12	8	8	10	9	9
	Women	13	13	16	15	14	12	12	13	15	13

NUMBER OF JUNIOR EUROPEAN ATHLETES IN THE TOP 20 LISTS

The number of European athletes has seen differing trends over the years with it having 50% of the Worlds top twenty in 2004 but the number gradually decreased to 20% in both 2006 and 2007 when China was the dominant player at junior level. There has been a shift back towards the peak level suggesting that the Europeans are producing more top quality athletes for the future in shot put.

The highest number of Europeans in the top lists is represented in the javelin throw by both female and male athletes with up to 17 (85%) in the 2007 list.

The representation of Europeans in discus throw is more than 50% in the case of male throwers being on average 63% during the past 5 years. In the case of hammer, the representation of Europeans is even higher than in discus but also similar to senior level athletes.

		2008	2007	2006	2005	2004
Shot Put	Men	14	16	11	5	12
	Women	9	4	4	7	10
Discus	Men	11	11	11	11	11
	Women	10	12	14	16	11
Hammer	Men	15	12	14	15	12
	Women	15	12	14	13	15
Javelin	Men	16	17	16	14	16
	Women	16	14	14	16	16

Number of European athletes in the top world list

NUMBER OF PB/SB FOR THE TOP 10 JUNIOR IN TOP LISTS THE PREVIOUS YEAR

The following table shows the personal best results of the athletes in the top world list. Personal bests range from 19.67 to 21.08 for male shot putters. The highest improvements in shot put results were achieved by the athletes on the first fourth and ninth spots of the world list. Their improvement was around over 110%. A similar improvement exhibits the female shot putter on the 4th spot.

The athlete who improved the most from 2007 to this year was the second position in the world discus throw going from a distance of 56.35m to 65.32m. The performance in women, however, has not improved so much from the last year. In the case of hammer throw the athletes with highest improvement this season is on the 9th spot of the world list having improved his throw from 63.36m last year to 74.32m being the athletes who has improved his throw the most. Also the athlete on the 4th spot has improved from 66.22m to 76.3m.

It is also worthwhile to note the greatest increase for both javelin men and women are athletes from Uzbekistan, with around 115% improvement from previous years PB. Anastasiya Svechnikova SB in 2007 measured at 48.25m, while in 2008 her SB was 56.14, as well as finishing in 18th place in Beijing. Her fellow countryman Bobur Shokirjonov threw with a 700g Javelin a SB of 67.96m in 2007. In 2008 he threw for the first time the 800g Javelin a SB of 77.92m winning the Asian Junior Championships. He also finished 18th in Beijing, but also only 6th place at the World Junior Championships earlier in the year.

			Position on the World Junior Lists									
			1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th
Shot put	Men	2007	19,03	19,95	18,98	18,21	n/a	18,79	19,69	19,95	17,99	18,87
		2008	21,08	20,59	20,54	20,19	19,96	19,93	19,89	19,85	19,85	19,67
		%inc	110,77	103,21	108,22	110,87	n/a	106,07	101,02	99,50	110,34	104,24
	Women	2007	19,13	17,23	17,12	16,09	15,68	15,08	15,78	15,91	16,04	17,18
		2008	19,09	18,65	17,3	17,07	16,9	16,89	16,74	16,52	16,31	16,19
		%inc	99,79	108,24	101,05	106,09	107,78	112,00	106,08	103,83	101,68	94,24
Discus	Men	2007	65,31	56,35	n/a	n/a	57,03	59,47	60,75	56,87	n/a	n/a
		2008	70,13	65,52	63,25	62,34	62,02	62	61,66	60,46	59,57	59,04
		%inc	107,38	116,27	n/a	n/a	108,75	104,25	101,50	106,31	n/a	n/a
	Women	2007	n/a	51,39	55,89	n/a	51,59	55,02	n/a	52,99	53,9	55,21
		2008	56,06	55,92	55,89	55,82	55,07	54,96	54,74	54,33	54,1	54,03
		%inc	n/a	108,81	100,00	n/a	106,75	99,89	n/a	102,53	100,37	97,86
Hammer	Men	2007	73,88	70,79	73,59	66,22	67,81	n/a	69,19	n/a	63,36	69,92
		2008	78,43	77,46	76,76	76,3	75,92	75,46	74,67	74,47	74,32	73,43
		%inc	106,16	109,42	104,31	115,22	111,96	n/a	107,92	n/a	117,30	105,02
	Women	2007	67,24	63,58	64,05	n/a	64,6	59,77	60,02	57,37	59,37	62,11
		2008	69,59	68,26	67,49	64,18	63,46	63,1	62,59	62,13	62,08	62,06
		%inc	103,49	107,36	105,37	n/a	98,24	105,57	104,28	108,30	104,56	99,92
Javelin	Men	2007	74.5	67.96	75.75	71.15	72.4	n/a	67.37	n/a	n/a	69
		2008	78.01	77.92	77.18	76.2	75.31	74.47	74.44	73.89	73.38	73.14
		%inc	104.71	114.66	101.89	107.1	104.02	n/a	110.5	n/a	n/a	106
	Women	2007	58.48	54.14	59.89	57.88	55.93	51.7	56.55	48.25	n/a	56.48
		2008	63.01	62.09	60.68	59.25	58.89	58.77	57.55	56.14	55.54	54.71
		%inc	107.75	114.68	101.32	102.37	105.29	113.68	101.77	116.35	n/a	96.87

Actual personal best results of the top 10 athletes on the world list and improvement in comparison to last year's performance

Note. % inc = percentage increase in performance

n/a = did not compete

MAJOR JUNIOR CHAMPIONSHIPS

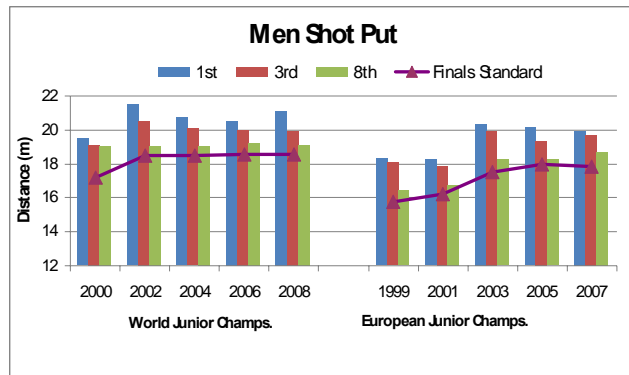
The following section includes the results at World and European Junior Championships for positions 1st, 3rd, 8th as well as the shortest distance thrown by the 12th athlete at the Qualifying Round (q).

The championships included are:

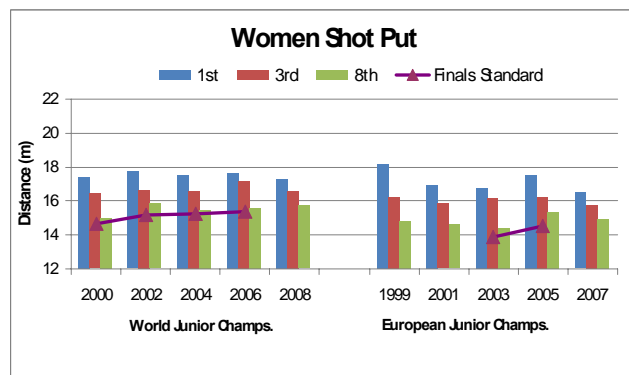
World Junior Championships (WJC)	European Championships (EJC)	Junior
2000 WJC in Santiago;	1999 EJC in Riga;	
2002 WJC in Kingston;	2001 EJC in Grosseto;	
2004 WJC in Grosseto;	2003 EJC in Tampere;	
2006 WJC in Beijing; and	2005 EJC in Kaunas; and	
2008 WJC's in Bydgoszcz	2007 EJC in Hengelo	

The male shot put in the World Junior Championships have seen an increase in the

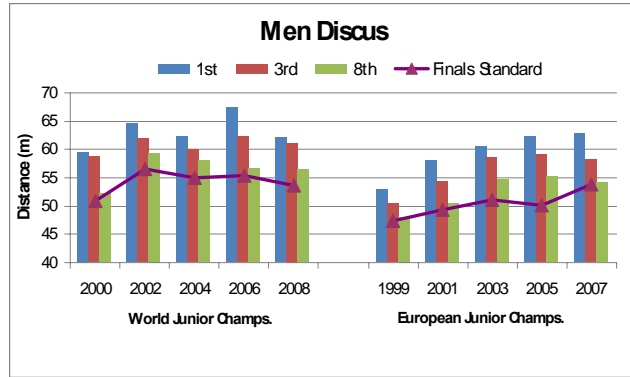
standard to win the competition going from 19.48m in 2000 to 21.08m in 2008 where it peaked at the 2002 event at 21.47m. The standard for bronze, 8th place and minimum entry to the final have all risen too. The European Junior Championships standards have increased dramatically over the past 10 years with the winning throw jumping from 18.27m in 18.27m to almost 20m in 2007, the bronze medal standard has risen quite steadily with the most notable increase being over 2m between the 2001 and 2003 events. The standard for the 8th place and entry to the final have almost made large increases.



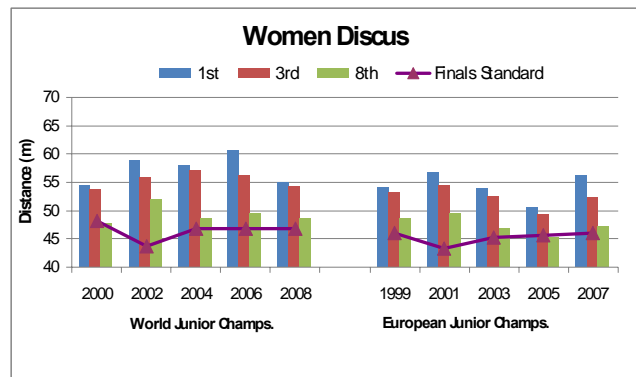
There is a stark contrast with the women's major championships. The winning distance in the final of the World Championships has retained a certain amount of equilibrium over the years and the marks for bronze, 8th place and qualification for the final have made moderate gains. The European Championship standards saw the most significant decrease in the standard levels where the winning throw fell by almost 2m from 18.20m in 1999 to 16.51m in 2007 and the bronze medal distances also fell slightly from 16.24m to 15.74m in the same period. The marks for 8th place and entry to the final did, however, increase slightly, although there was no qualification round for the 1999, and 2001 events respectively.



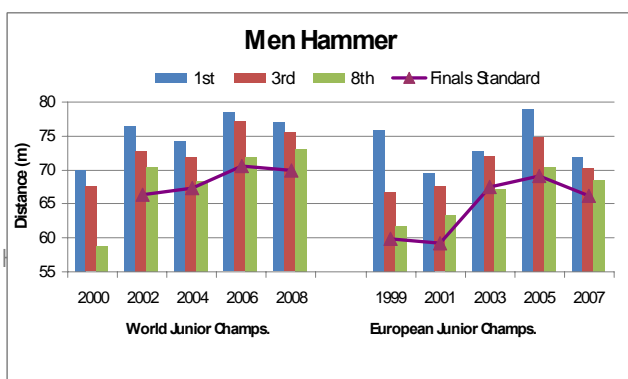
The top 1st, 3rd, and 8th positions at the world championships over the past 10 years have been rather irregular. The peak was in 2005 with the only throw in the past 10 years being over 65m (67.32m). Third and eighth place position have been consistently following the trend of the first place position. The trend for the qualification standard of WC reached its peak in 2001 when it reached 56.47m, while the lowest was in 1999 with a distance of 50.84m. European Championships have had consistently lower throws than World Championships. The worst year was in 1999 when the 1st place competitor threw only a 52.89m, which is lower than all the 8th place finishers at World Championships during the past 10 years. Every year the junior EC have been getting more competitive with a longer throw each year in all positions. Qualification standards were not available for EC 1999 through 2005. The standard for qualification in 2007 was 53.85m.



The top 1st, 3rd, and 8th positions at on the world list over the past 10 years started rather low with a first place distance of only 54.41m, it then increased in 2001 to 58.85m, but dropped again in 2003 (57.85m). The first place distance peaked in 2005 (60.63) but then again dropped to 54.96m. Third place position follows the same trend as the 1st place position, while 8th place position stays more consistent, except in year 2001 when it peaks at 51.98m. The qualification standard was at its highest (48.21) in 1999, which overall looks to be the year with the lowest throws of positions 1st, 3rd, and 8th. The lowest qualification standard was in 2001 when it was at 43.73m, and then it seemed to remain stable between 46.7m and 46.8m.



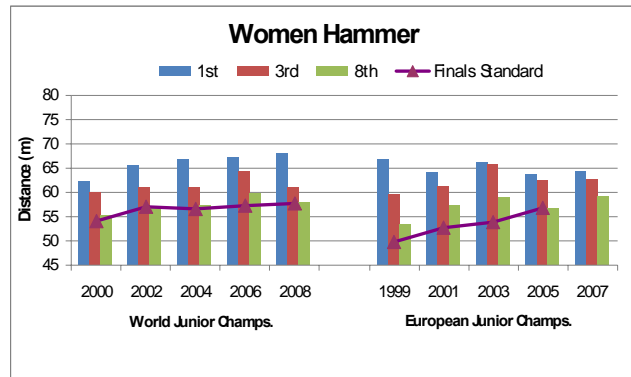
European Championships in general have had throws that are shorter in distance to WC. The first place distance was the farthest in 2001 with a throw of 56.69m, after 2001 the distance for the first place position decreased every year and reached a low of 50.6m in 2005. The 2007 distance was much better when it reached a distance of 56.16m. Third place positions have also decreased since 2001 (54.49m), reached a low in 2005 (49.31m) but increased again in 2007 (52.21m). Eighth place has consistently followed the trend of the first place position. Data for the qualification standard was only available for 2007 and it was 45.96m.



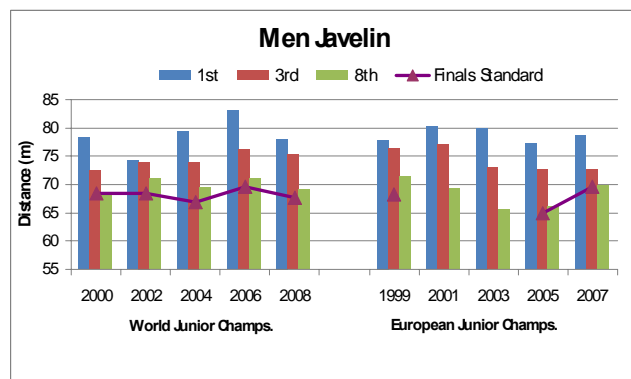
The World Junior Championships in the male hammer throw have seen a steady increase of about 7m in the standard to win the competition going from 69.97m in 2000 to 76.92m in 2008. The distance achieved for the winner was longest in 2006 (78.42m). The results for the bronze

as well as 8th position also follow the same pattern as the winner. The minimum entry to the final has also increased over the years being the about 70m. The increase in the results in the European Junior Championships is also evident with a longest throw in 2005. However, the high distances achieved during the European Championships in 2005 and Worlds in 2006 have not been maintained.

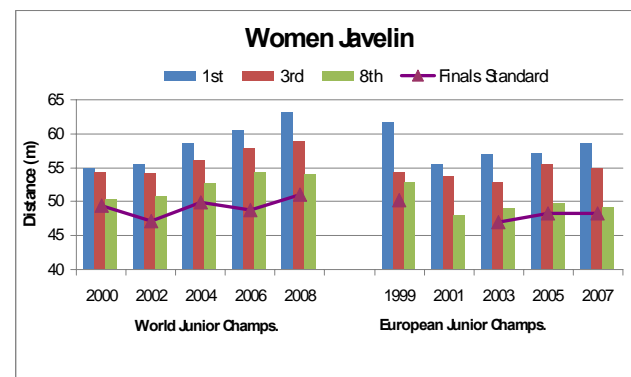
The results in both World and European Championships have been quite similar for female hammer throwers. There is a slight improvement in the World Championships towards 2008 where the winner threw a distance of 67.95m. The results of the bronze medallists were best in 2006, and also improved along the 5 year period. A similar trend has been followed at the European Championships, however, been the longest distances thrown in 1999. Also in 1999 the distances between 1st, 3rd and 8th were the biggest. The minimum distance to qualify has also increasing.



The results of the first positions at the world championships have been gradually improving until 2006 when John Robert Oosthuizen (RSA) threw a distance of 83.07m. That was his first year as a junior using the 800g javelin, when previously he had used the youth javelin for 3 seasons. The distances thrown at the European Championships have been slightly lower but over 77m. The distance between the first and the 8th position is highest at the Europeans in 2003 (7m). The minimum standard to make it to the finals has increased in almost 5m from the 2005 to the 2007 European Championships.



In 1999 the athletes were still using the old specification for javelin, and as the figure shows there is a reasonable distance thrown at the European Championships. There was likely no qualification round for 1999. In 2001, again there was no qualification round and as a result there was a dispersed range of athletes competing at the European Championships. Since then, there have been constant improvements for virtually all positions at each major championship, although the distances thrown at the European Championships is much less than the previous year's World Championship.



NUMBER OF JUNIOR EUROPEANS ATHLETES IN THE FINAL/MEDALLISTS

Europeans have had a scattered pattern of representation in the World Junior Championship final. Nine of the shot put final athletes were from a European country in the 2000 event but this declined from then and reached its lowest point in 2006 when just 4 participants were European. However, there has been a significant shift in this year's event when 11 of those who qualified for the final were from Europe. The number of finalists in the European Junior Championships has increased from 9 to 12 in the 10 year period with 13 competing in the 2003 final.

There has been a similar trend with the junior European women with the peak involvement being in 2000 with 11. This fell in 2002 to 8 and remained the same in 2004 but there were only 4 Europeans who made the final in 2006. There has been a slight improvement in this year's competition with a total of 7 European athletes getting through to the final. Similarly, the number of competitors in the European Junior Championships has fluctuated from 9 in 1999 to 13 in 2003 and then fell to 8 in 2005. Last season's event saw the number restored almost to the peak level with 12 athletes making the final.

The Europeans have been quite unopposed over the last 10 years in the World Junior Championships with 100% records in 2000, 2004 and again this year in Bydgoszcz. It was only in 2006 that European athletes failed to pick up at least 2 of the medals. By contrast the Europeans have had mixed fortune in the Women's equivalent with the peak performance coming in the 2006 event when they won all three medals. However, they were not amongst the top three in 2002 and just managed to collect one in this year's championship in Hungary.

The number of Europeans in the discus final has increased. In 2000 there were seven European athletes, same as in Kingston in 2002. The representation increased to 10 at the World Championships in 2004 in Grosseto. This year there were 10 Europeans represented in Bydgoszcz. The junior European males also seem to be dominating the medals, during years 2004 and 2008 they won all 3 medals, while in 2000, 2002, and 2006 they won two medals.

For European junior females, the field is not as European dominating as it is for male discus. During the past 10 years the finals of the World Junior Championships have contained about eight European athletes at the Worlds from 2000 to 2004. The number of medallists for European athletes has followed a pattern of no medallists, and then 2 medallists (2000-2, 2002-0, 2004-2, 2006-0, 2008-2).

All athletes in the finals of the World Championships in 1998 were Europeans. However, two years later they were only representing half. The trend towards this year is again a higher representation of Europe. European athletes have won at least one medal, and in the Worlds of Beijing (2006) they won them all. Although there were only six European athletes in the finals of the World Championships in 1998, the trend has been of 10, 11 athletes from the European nation for female hammer throwers. Europeans have dominated the medals having won two in most of the world championships and in 2002 having won all three medals.

In the case of javelin throw, both men and women are very under represented when compared with the amount of Europeans in the seniors list. Although there is strong representation of European men in the finals (with an average of seven athletes in each championship), they are not winning the medals at the world championships.

PERFORMANCE OF TOP SHOT PUT JUNIOR ATHLETES

Juniors – Men

David Storl of Germany, gold medal at the World Championships, has participated in a total of 10 outdoors competitions in the 2008 season winning 9 of them and having one 3rd place finish. He made a new personal best and also a new junior record of 21.08m in the final of the World Junior Championships in Bydgoszcz on 8th July. His performance has been quite consistent in the distances thrown in the previous 5 events (20.98 m, 20.41, 20.02, 20.39, and 20.38) peaking at the WJC before a slight dip in performance after that (19.81 m, 19.77). He has competed within 2% of his personal best in two events. He also competed in 3 indoor events winning all 3 and made a personal best of 19.86m when winning the National Championships in Dusseldorf on 16th February.

Alexander Bulanov of Russia, silver medal at the World Championships, took part in just 4 outdoor competitions in the season where he won 3 and finished second in the other. He made a personal best of 20.59m in Sochi on 25th May but failed to maintain this level of performance after that (19.98 m, 20.14, 19.41). He also qualified for the final of the World Junior Championships where he won silver with a throw of 20.14 m on 8th July. Despite winning 3 out of four competitions, he was within 2% of his personal best of 20.18 only once. He did not participate in indoor competitions.

Emanuele Fuamatu of Australia, bronze medal at the World Championships, competed in a total of 6 events in 2008 winning 5 of them and having one 9th place finish in the World Junior Championship final with a throw of 19.11m. He achieved a personal best of 20.54m at the Gold Coast on 15th July. He shows a trend of consistent performances with distance being maintained above 19m with the exception of the first event of the season. He was however, only once within 2% of his personal best in any of the competitions. He did not take part in any indoor events.

Orazio Cremona of South Africa, 4th on the World Junior Outdoors, participated in a total of 6 outdoor events in 2008 winning 3 of those. He made a new personal best when winning the Yellow Pages event in Pretoria on 7th March with a throw of 20.19m. There is a pattern of inconsistency in distances thrown fluctuating between 19m and 20m and a drop off in his final event of the season which was the World Junior Championships where he did not progress to the final finishing 19th with a throw of 18.28m. He was within 2% of his personal best in two events. He did not compete in any indoor events for the season.

Grigoriy Kamulya of Uzbekistan, 5th on the World Junior Outdoors, just participated in 2 outdoor events in the season winning the Asia Cup in Jakarta on 12th June with a personal best throw of 19.96m and he also failed to make the final of the World Junior Championships finishing 15th in qualifying with a throw of 18.35m. He did not participate in indoor competition.

Marin Premuru of Croatia, 6th on the World Junior Outdoors, took part in just 5 outdoor events in 2008 winning 4 of them and also securing a bronze medal in the final of the World Junior Championships in Bydgoszcz on 8th July with a personal best of 19.93m.

Despite the high ratio of wins he has shown an inconsistency in performance in terms of distances made between each competition. He did not compete in any indoor events.

Rosen Karamfilov of Bulgaria, 7th on the World Junior Outdoor, competed in a total of 4 outdoor competitions for 2008 winning 3. He achieved a new personal best of 19.89m winning the National Championship event in Sofia on 22nd March with a throw of 19.89m. His performance levels peaked in the first competition (19.89) but gradually declined after that where his lowest distance was in the World Championships final where he finished 13th in the qualifying round with a throw of 18.50m. He was only within 2% of his PB on one occasion. He competed just once at indoor level winning the Junior National Championships in Sofia on 16th February with a personal best of 19.94m.

Stanislav Sehedra of Ukraine, 8th on the World Junior Outdoor, participated in 5 outdoor events in 2008 winning 4 of them and finishing 5th in the final of the World Junior Championships with a throw of 19.80m. He made his seasons best of 19.85m in Koncha-Zaspa on 20th May. He showed consistency in performance levels for throws where he maintained distances of 19m and above for each event and he was also within 2% of his SB in four of the events. He did not compete in indoor competition.

Juniors – Women

Gong Lijiao of China, 1st on the World Junior Outdoor, participated in only 5 different competitions in 2008 where she won once and had two 2nd place finishes. Her season's best was achieved in the qualifying round of the Olympic Games at a distance of 19.46m. Her performance levels were steadily improving (starting at 18.27m) with the aim of peaking around the time of the Olympics where despite making a new personal best she finished outside of the medals in 5th place. She was also within her PB in two events. She also took part in an indoor event, which she won with a throw of 18.12m at the Asia Cup in Doha on 14th February.

Natalie Duco of Cuba, 2nd on the World Junior Outdoor, competed 10 times in 2008 where she won 3 events including the World Junior Championships setting a new personal best and area record of 18.65m. Her performance has been consistent throughout the season maintaining distances between 17m and 18m. However, she failed to be within 2% of her PB and AR in any other event. She also took part in the Olympic Games in Beijing but could only manage 22nd place in the qualifying round with a distance of 17.40m. She did not compete in any indoor events.

Melissa Boekelman of the Netherlands, 3rd on the World Junior Outdoor, participated in 13 events this season where she won 4 and had 5 2nd place finishes including a silver medal at the World Junior Championship with a throw of 16.60m. Her performance has been progressing in the early part of the season (16.63, 16.84, 17.3) until she made her seasons best of 17.30m at the FBKG event on 24th May. She was also only within 2% of her seasons best in two events. She took part in one indoor event where she made a personal best of 17.11m winning the National Championships in Gent on 16th February.

Meng Qianqian of China, 4th on the World Junior Outdoor, took part in 7 outdoor events in the 2008 season winning 2 of those but was outside the top 3 in each of the other. She made a personal best in the first event at Chengdu on 30th March with a throw of 17.07. She was also only within 2% of her PB in one event. She qualified for the World Junior Championship final but finished 9th with a throw of 15.22m. She also competed in 2 indoor events where she won one and finished 2nd in the other and set a new personal best of 16.81m.

Anita Marton of Hungary, 5th on the World Junior Outdoor, participated in 12 outdoor events in 2008 winning 10 and having a 5th place and 7th place finish. She made a personal best and new junior record of 16.90m winning the Junior National Championships in Senta on 15th June. Her performances have steadily improved towards the NC-j where she peaked but after the distances made were inconsistent (15.88, 16.27, and 15.5). She was only within 2% of her PB in one event. She also took part on 4 indoor events winning all four and making a new personal best of 16.31m at the National Championships in Budapest on 23rd February.

Sophie Kleeberg of Germany, 6th on the World Junior Outdoor, participated in 14 events winning 9 of them and had two 2nd place finishes. She made a personal best winning the Wertertage event in Halle on 25th May with a throw of 16.89m. Her performance has been inconsistency in the throws in the events following this (16.06, 16.24, 15.68, 15.22). She was within 2% of her PB in two events. She also qualified for the World Junior Championship final but could only manage 5th place with a distance of 16.06m. She also competed in 4 indoor events winning 2 and finishing runner-up in the other two. There was a progression in her performance towards the last event where she made her personal best of 16.46m in winning the v2Nat event in Halle on 1st March.

Cui Shuang of China, 7th on the World Junior Outdoor, took part in just 4 outdoor events where she failed to win any of them and to finish inside the top 3. Her performance peaked at the beginning where she made a personal best of 16.74m and then had a continuous reduction in distances from that point onwards (16.47, 15.65, 16.14). She participated in 2 indoor competitions as well where she set a new personal best of 16.58m at the NGP meeting in Beijing on 27th February.

Ma Qiao of China, 8th on the World Junior Outdoor, took part in 5 outdoor events but did not win any, however, she did manage to claim bronze at the World Junior Championships and set a new personal best in the process of 16.55m. There has been a drop in her performance levels after the first event (16.08, 15.68, 14.68) but it then peaked at the WJC's before falling again. She competed in just on indoor event where she managed a throw of 15.54m at the NGP event in Shanghai on 27th January.

DATABASES CONSULTED

The data were retrieved from the following databases:

Tilastopaja Oy

<http://www.tilastopaja.org>

International Association of Athletics Federations

<http://www.iaaf.org>

The Official website of the Beijing 2008 Olympic Games

<http://results.beijing2008.cn>

European Athletics website

<http://www.european-athletics.org/>