BishopBJJ.com
The Science Of Jiu-Jitsu

The 2012 World Jiu Jitsu Championships Case Study

Created By: BishopBjj.com L.L.C.

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The BishopBjj.com 2012 World Jiu Jitsu Case Study

Introduction:

The "BishopBjj.com 2012 World Jiu Jitsu Case Study" is the largest Brazilian jiu-jitsu competition study ever conducted, and was sponsored by Infinity Kimonos. It includes a collection of over 1,224 different metrics, and was completed using uniform data collection and reporting methods.

Details:

The study collected data during the 2012 World Jiu-Jitsu Championships using the following criterion…

- 90 black belt adult matches across 11 statistically even divisions
  (90 matches is more than enough to render a statistically accurate sample by all standards-
  [+10%], and divisions were sampled by an average percentage based on competitor entries)
    - Rooster
    - Light-Feather
    - Feather
    - Light
    - Middle
    - Middle-Heavy
    - Heavy
    - Super-Heavy
    - Ultra-Heavy
    - Women's
    - Open Class (mens)
- No competitor was surveyed in more than 2 matches to ensure that one competitor didn't cause a statistical discrepancy
- Matches were recorded in an even cross-section of tournament rounds (i.e. first, second, semi-finals, and finals rounds, etc.) to ensure a proper sample of performance across tournament rounds.
- All matches were recorded in their entirety
- All match selections were random
- Matches were all observed using HD tournament footage
- The report collected detailed information on techniques, results, and trends
- Recorded and developed by Tyler and Jena Bishop of BishopBjj.com L.L.C.

Abstract:

This study was incredibly difficult to produce, because it is truly the first of its kind. All of the standards that were utilized for this study match uniform processes used in most corporate environments for ROI comparisons. Because we have intended to take such a scientific approach to recording and reporting this data it was very important to us that we did not inflect our opinions into the study, thus most of the content you will observe below is purely empirical. In the following sections we will introduce over 1,224 metrics that layout a detailed and unquestionable blueprint for what Jiu-Jitsu looked like at the 2012 World Jiu Jitsu Championship. We would encourage everyone reading this study to reflect on this information with great internalization. The whole point of this study is to help competitors and rule-makers better themselves by analyzing the game. This type of information exists in other sports, but not

in Jiu-Jitsu. Football players, baseball players, and soccer players all use this kind of information on a daily basis to present themselves with an edge. This study will be the new standard by which we measure the sport of Jiu-Jitsu. As many of you will see the average data is enlightening, but can be misleading if not used in context with weight class. The data by weight class breaks down the average data even further, and allows us to analyze how much the information changes by weight class. This is the main observation that we discovered in initially evaluating the data. Like any new field of research, our process for evaluation and reporting will continue to evolve and grow. In final review we believe this study accurately reflects and measures the 2012 World Jiu Jitsu Championships, and are excited to share it with the Jiu Jitsu community.
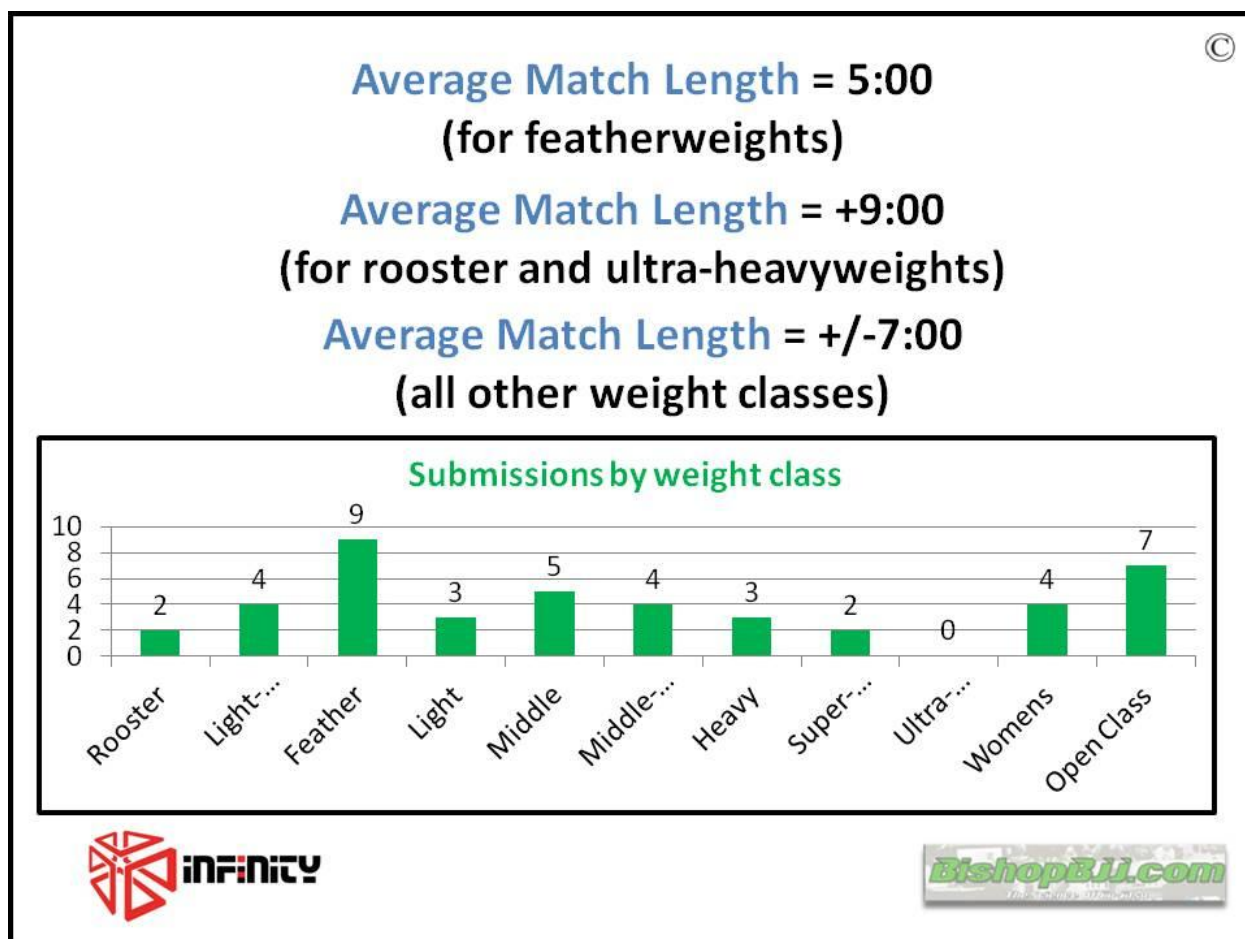
Section 1.1

Whether you are a competitor, enthusiast, vendor, or fan it's easy to see that Brazilian jiu-jitsu is growing. It's important to the growth of this sport that it consistently be tracked and measured so that we do not form incorrect opinions about its growth, style, or nature. This type of measurement and recording will help further develop proper rules, training, and feedback.

The 90 matches that were recorded included 643 minutes of total competition resulting in an average match length of approximately 7:04 of a possible 10 minutes. In these recorded matches 43 resulted in submission, 43 resulted in a win by points, 3 resulted in a referee's decision, and 1 resulted in a disqualification.
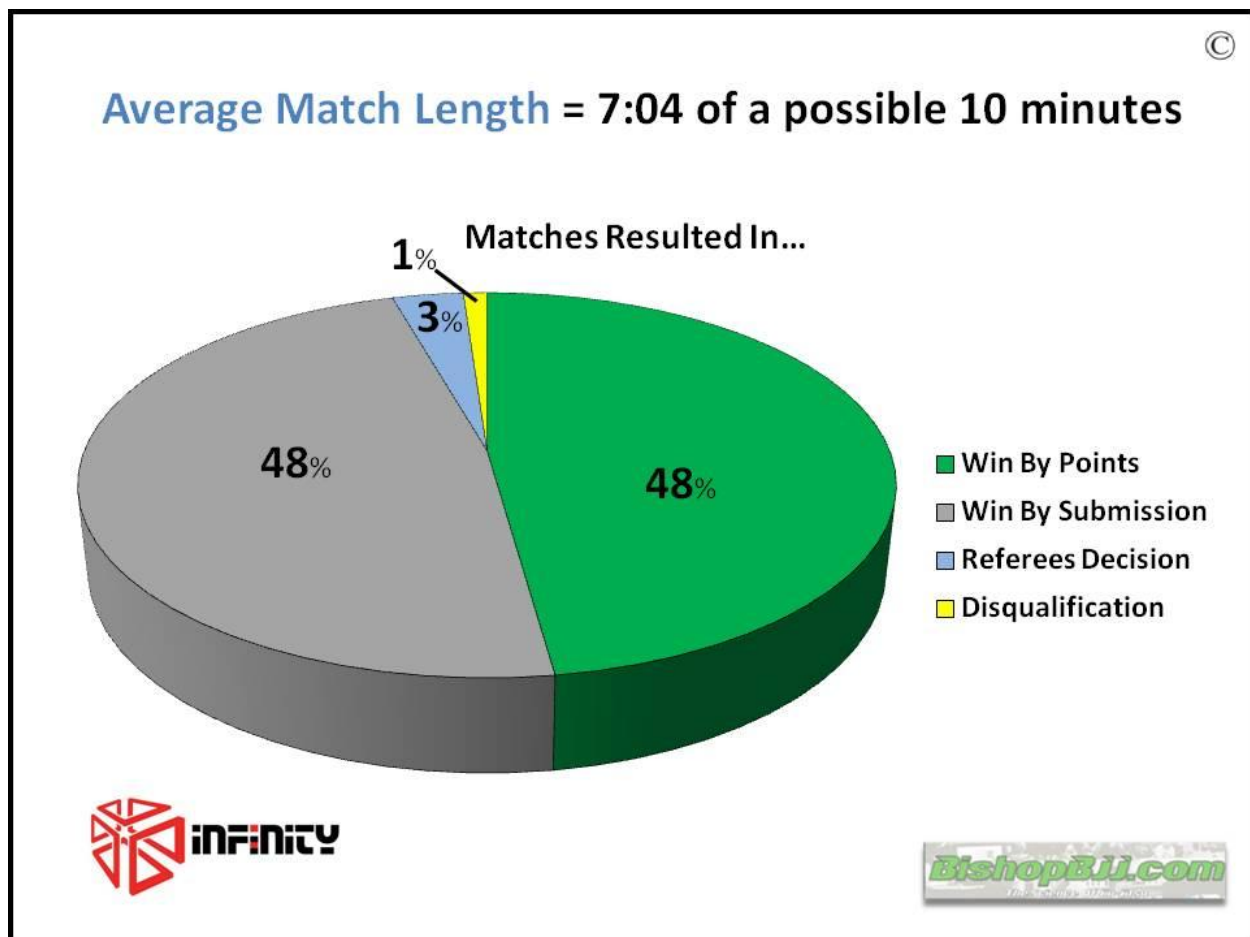
Submissions were as common as any other outcome. An observation from the later rounds revealed that submissions became less frequent in the semi-finals and finals rounds. This is likely due to a greater disparity in skill sets in the earlier rounds between competitors.

Of the matches observed, the greatest number of submissions occurred in the men's featherweight division (9), with the men's roosterweight and ultra-heavyweight classes experiencing the lowest number of submissions (2 for rooster and 0 for ultra-heavy). It is an anomaly that the lightest and heaviest weight classes both experienced the same low instance of submissions; however, it is fair to give precedence to rooster having a lower percentage because they had a larger sample size in the study than the ultra-heavyweights due to roosterweight having a larger division to draw from. With this in mind it is worth mentioning that the average featherweight match lasted only 5 minutes while roosterweight and ultra-heavyweights combined to manufacture an average match of over 9 minutes.


Section 1.2

In section 1.1 we revealed that matches were won in 1 of 4 possible ways. Wins by submission and by points both account for approximately 96% of the total pie, with referee decisions and disqualifications accounting for the smaller 4%. But how are competitors winning these matches? There are several trends that we will discuss in this section to help paint an accurate picture of how matches were won during this year's Brazilian Jiu-Jitsu World Championship.

Let's start with how the matches began. In 58% of the matches observed, the competitors reached the ground in less than 10 seconds. This number changes a bit when we break it down by weight class. For example, 80% of roosterweight matches reach the ground in less than 10 seconds, and only 20% of heavyweight matches reach the ground in less than 10 seconds. We recognized a trend in weight classes and how quickly the game reached the ground. As you will see next, this likely has a connection to the prevalence of guard pulls in the lower weight classes as well.
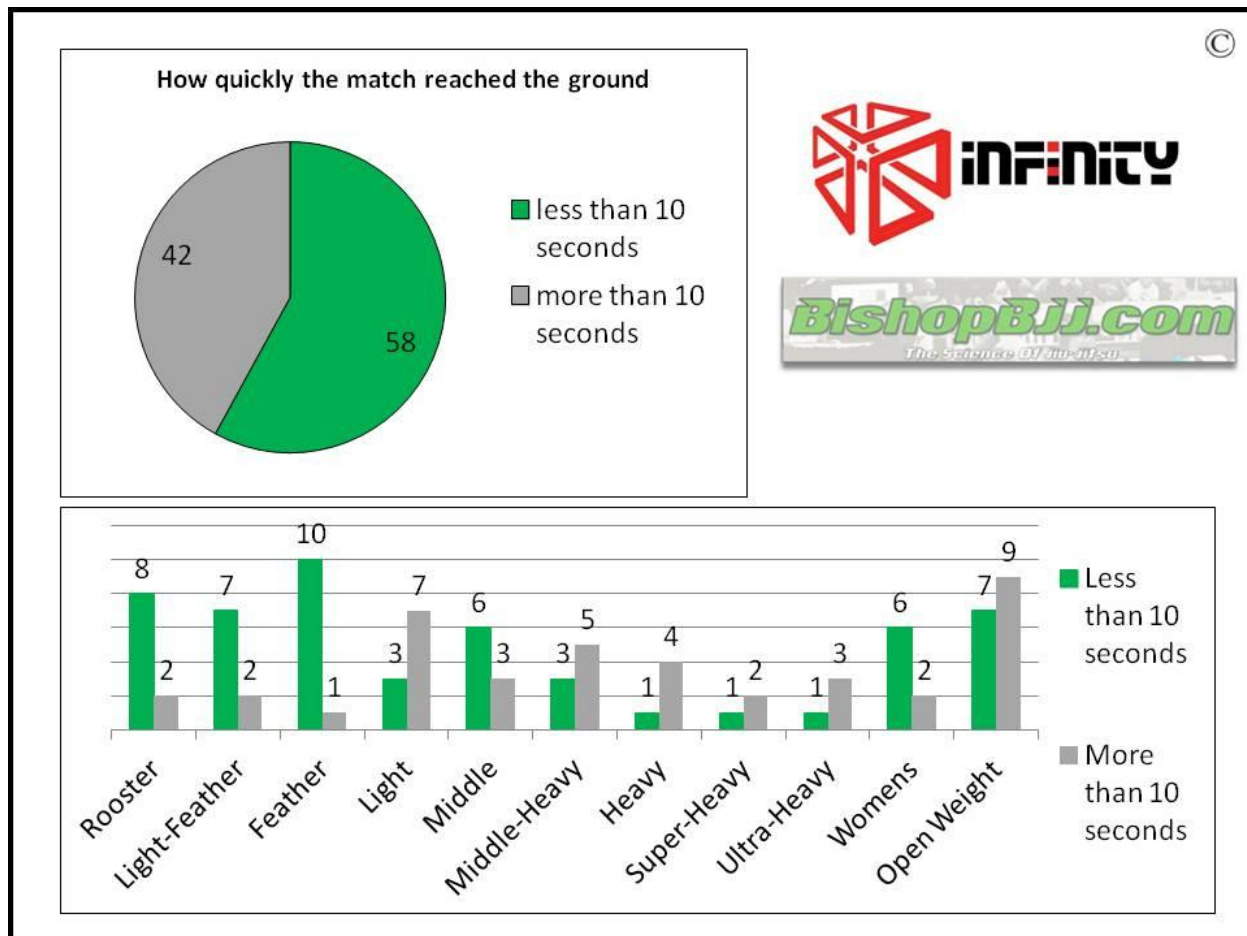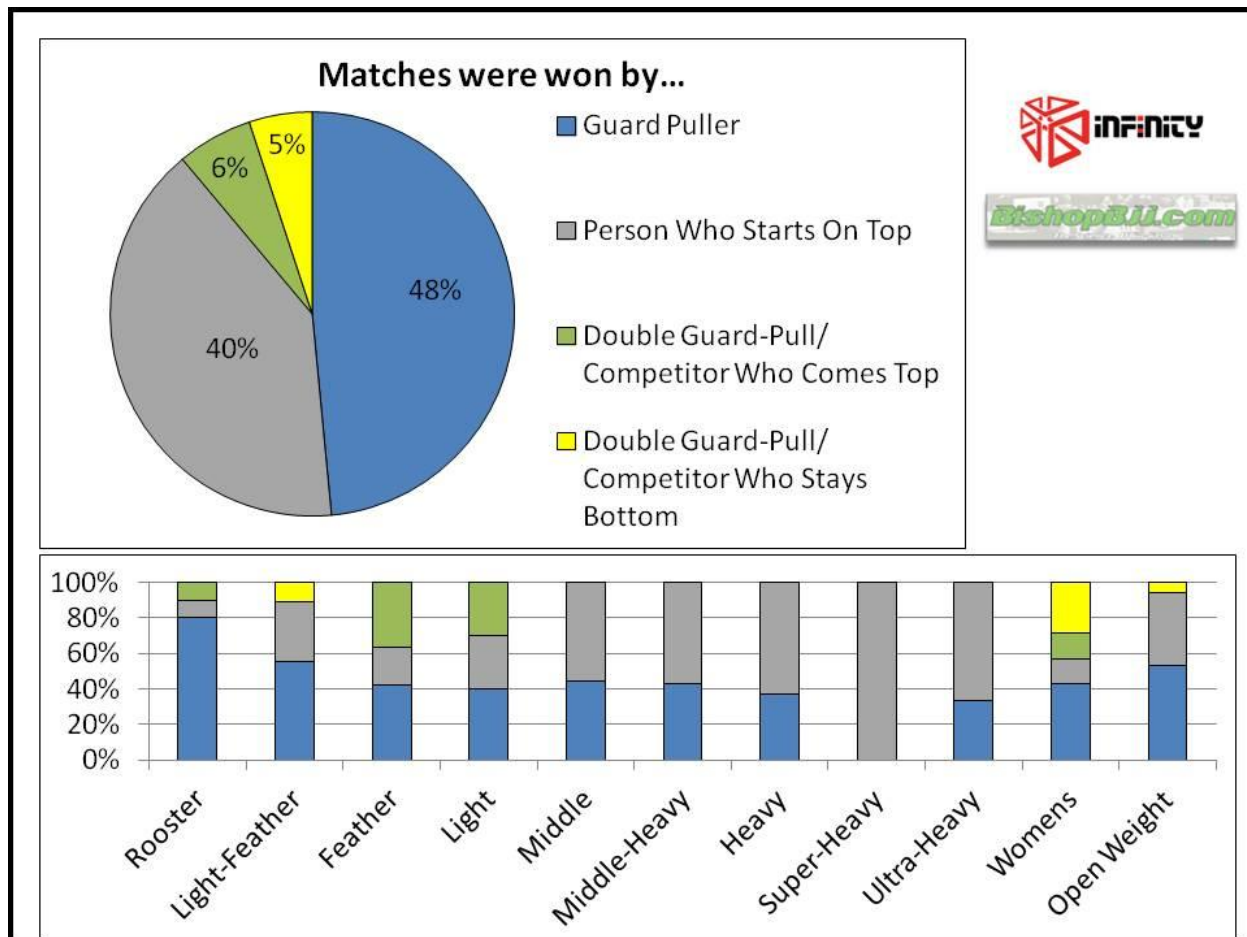

So if that breaks down how the contest reached the ground, let's now examine how it got there. In 66% of all the matches observed one competitor pulled guard, in 24% one competitor was taken down, and in 10% both competitors pulled guard. Again we see a trend in how these statistics change by weight class. In the lowest three weight classes, one competitor pulled guard in 79% of the matches, with both pulling in approximately 17% of matches. This means in the lowest three weightclasses the match reached the ground via guard pull in over 96% of the matches. In the heaviest 3 weight classes guard pulling by one competitor drops to 27%, with no matches starting with both competitors pulling guard. It's easy to see the trends in this scenario. In the heavier weight classes guard pulling is far less frequent, while at the lowest weight classes it is near certainty at 96%.

How matches reached the ground
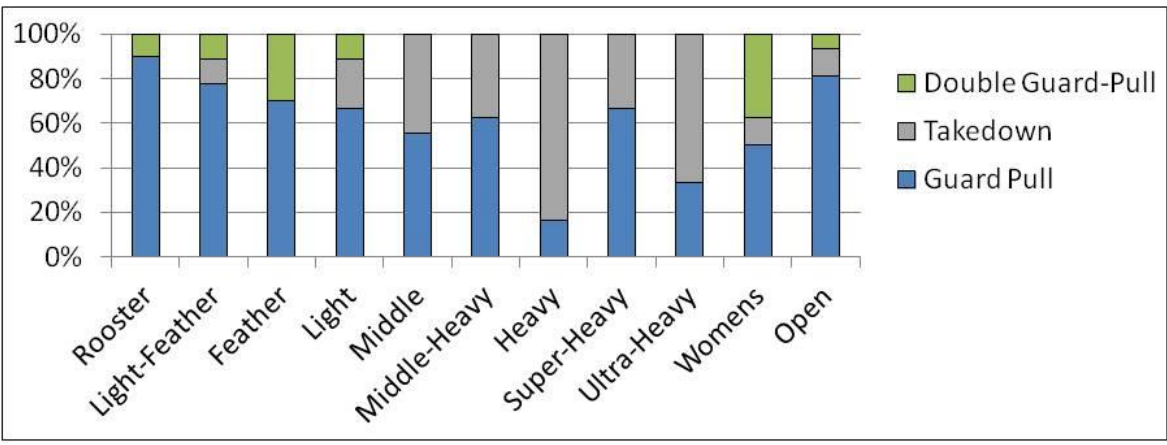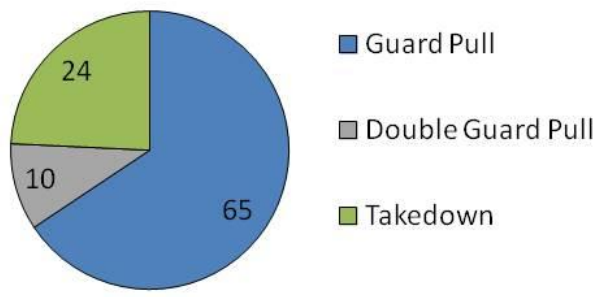
Now that we know how the matches started, we have to ask the question, how did they finish? In 49% of matches observed the person who pulled guard won, in 40% of the matches the person who started the match on top won the match, and in matches where both players pulled guard 6% of total matches were won by the player who came to the top first, and 5% were won by the person who stayed on the bottom. This data is consistent with our limited study of the 2012 Pan Ams in which the majority of matches observed were one by one player pulling guard. These numbers don't necessarily tell us that an advantage is to be had by the person pulling guard, but it may be able to tell us a lot about strategies and the rules as we expand this further in other sections.
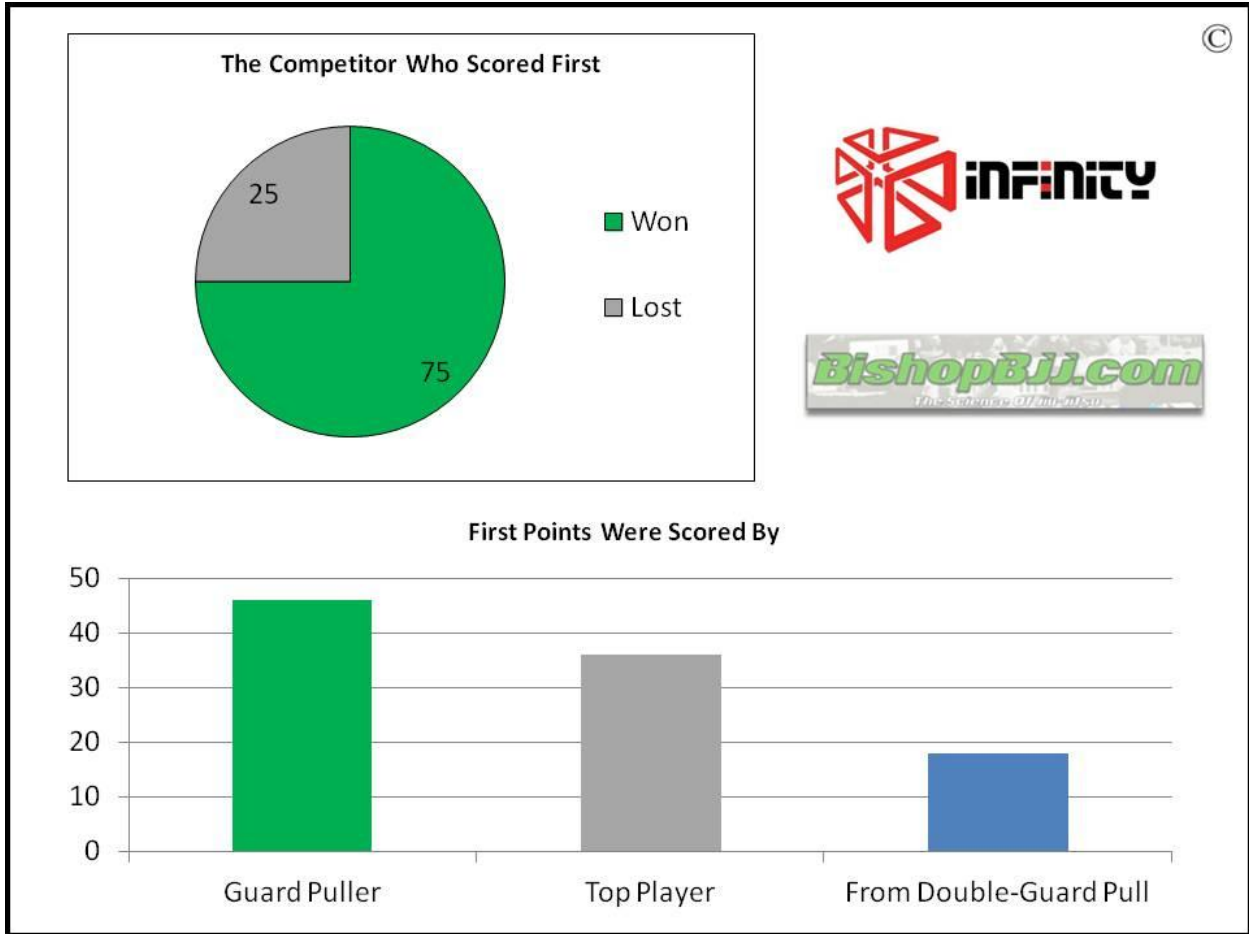
Matches were won by...
- Guard Puller — 48%
- Person Who Starts On Top — 40%
- Double Guard-Pull/ Competitor Who Comes Top — 6%
- Double Guard-Pull/ Competitor Who Stays Bottom — 5%

The obvious trend is the decrease of guard pulling as the weight of the competitor's increases. Another interesting observation is the prevalence of double-guard pulling for women. It is also interesting to note that guard pulling accounted for more than 50% of absolute match starts as well.

Section 2.1

Section 1 was about how matches started and finished. In section 2 we will look at the details that went into those results. We will discover things like, how these results were achieved, what techniques were used, what role did advantages play in this process, and what is else was important to victory this year?

We will start with the element that plays a role in the outcome of nearly every match, points. One of the most interesting things we discovered in our "Money Jiu Jitsu" study of the 2012 Pan Ams was that close to 80% of matches were won by the competitor who scored points first. This trend continued at the 2012 World Championships with 75% of matches being won by the competitor who scored points first. We won't make any judgments on why this is the case, but it deserves significant attention, the numbers don't lie—75% is a strong majority (and it reaffirms what we discovered this year in a more limited capacity at the Pans).

The Competitor Who Scored First

Won
Lost

First Points Were Scored By

Guard Puller — Top Player — From Double-Guard Pull

The question then becomes, how did these competitors score first? In this case, guard pullers scored first 46% of the time, players starting on top scored first 36% of the time(via pass or throw), and the other 18% scored first from a double guard pull position. Another interesting component of this is how quickly points were scored. In 34% of matches points were scored in the first minute. In these matches where points were scored within the first minute, 67% of them were in favor of the guard puller. We also found that players who scored with takedown in the first minute of their match won 100% of the time (this happened only 4 times in the entire study; it is a limited sample to prove this is a full-proof plan obviously).

Who Scored First By Weight and Type

Scored With In First Minute
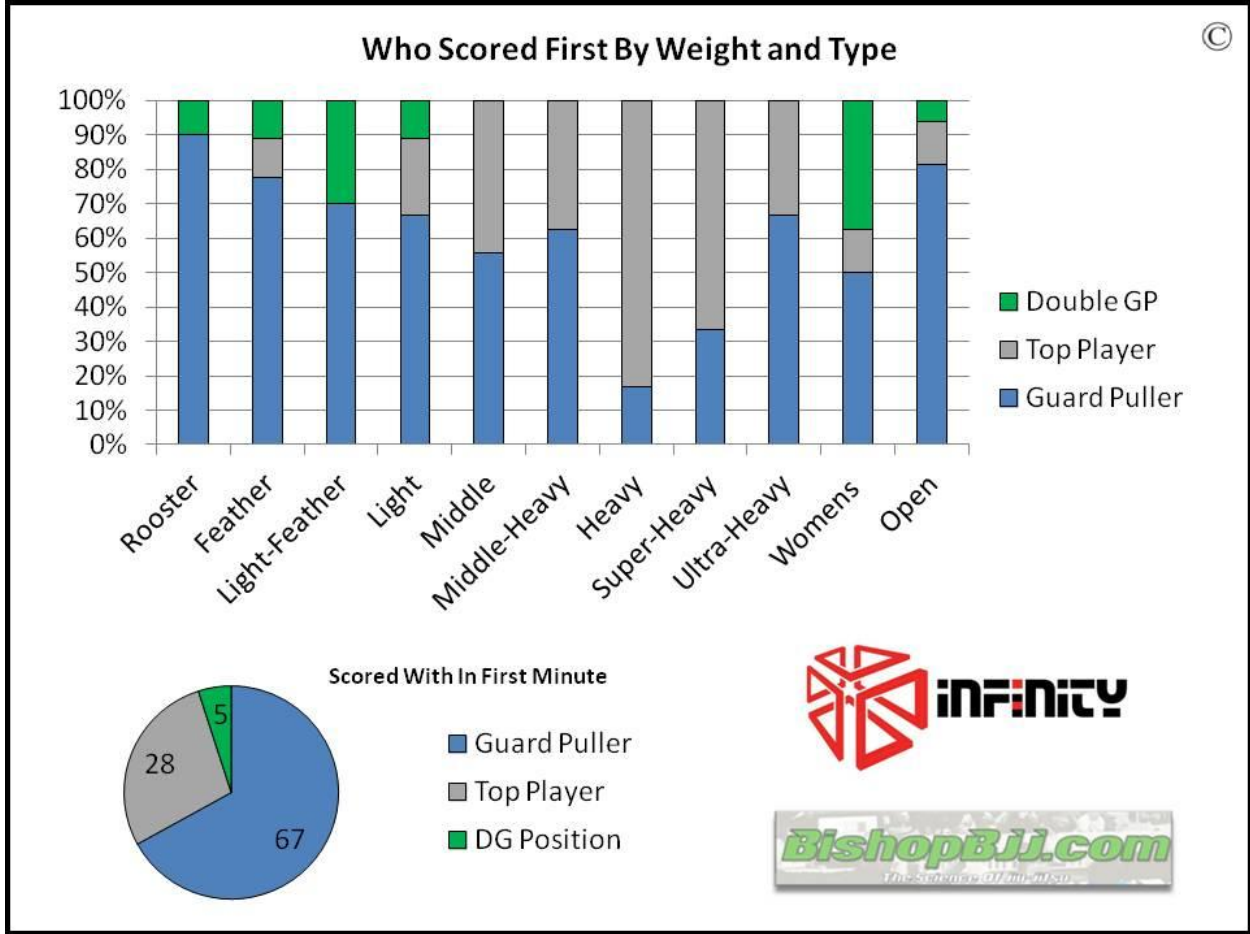
As you can see in the chart above, we continue to see a trend in game-changes as the weight increases among competitors. There appears advantages to the bottom player at the lower weights, and to the top player at heavier weights. Interesting enough, we see a more dominant bottom game in the open division as well.

The other interesting thing about points is how many matches were decided than less than 5 points. Of the 48% of matches decided by points, 67% were decided by less than 5 points.

Matches Decided By Points Won By…

- Less Than 5 pts: 67%
- More Than 5 pts: 43%
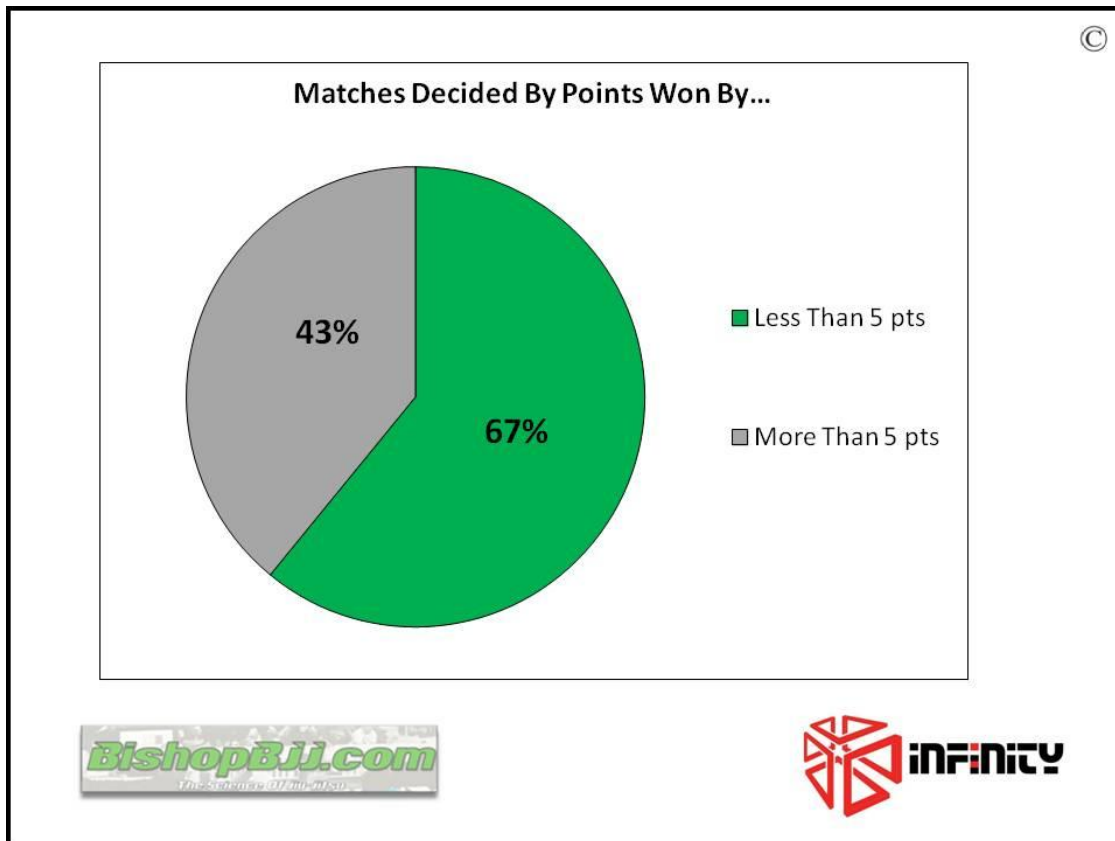
One particularly interesting part about the 75% majority of 'first-point-scorers' winning matches is that only 48% of matches were actually won by points. This would appear to show that scoring first gave competitors a better chance of winning in other fashions as well, but we examined this further to see if it was in fact the case. In 73% of matches won by submission, the person that scored first was the competitor that won. In another 11% of matches won by submission, the submission came from a neutral score, so it leaves us with only 16% of competitors who won by submission doing so after being scored upon first. This does in fact reveal the trend that those who score first are not only more likely to win on points, but are more likely to win by submission as well.

The other interesting thing about points and submissions is that 76% of all submissions came from the player winning on points. Only 4% of submissions occurred in the favor of the player losing on points. The other 20% of submissions occurred from a neutral score.

Submission Came From

- Player Winning On Points — 76%
- Neutral Score — 20%
- Player Losing On Points — 4%
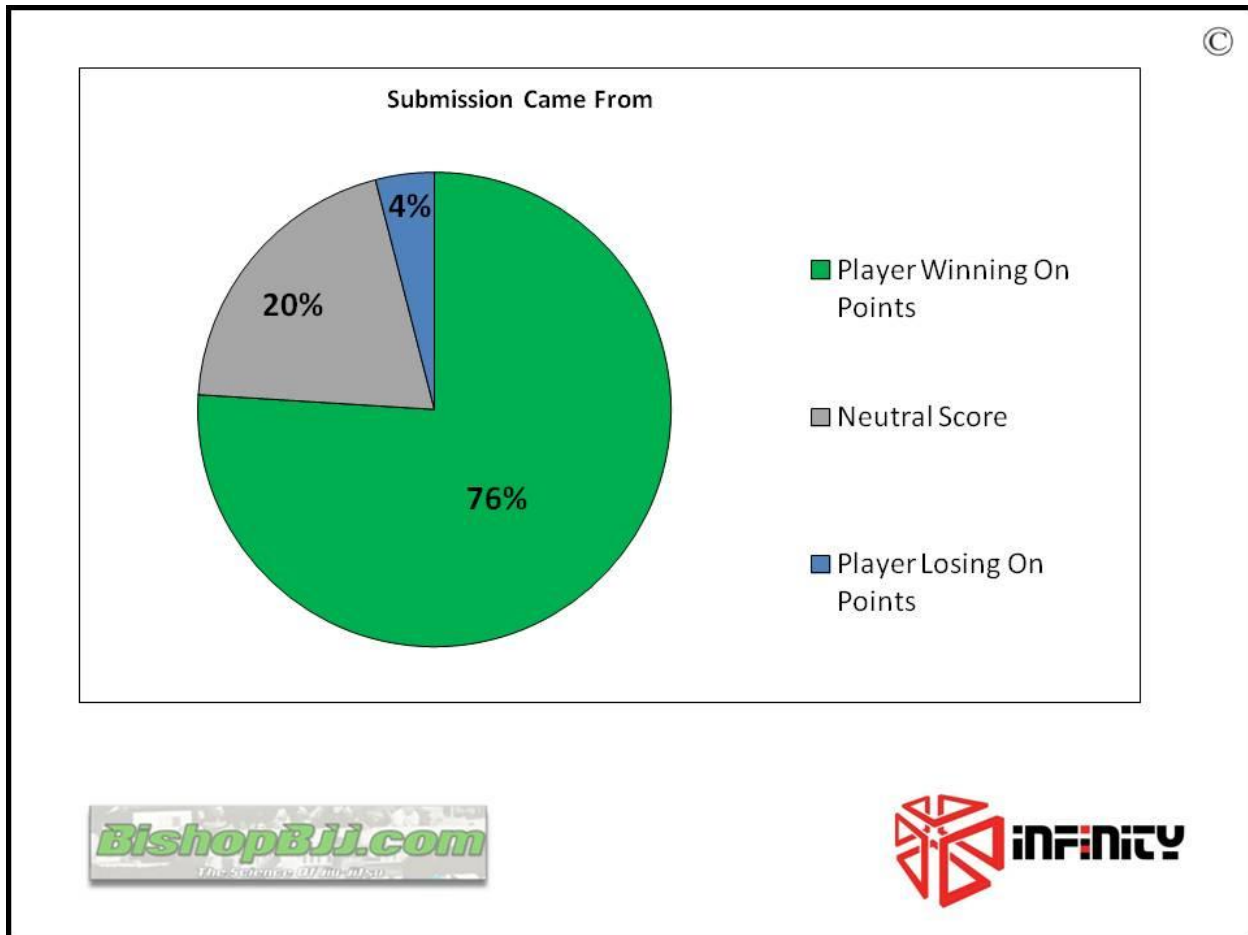
It's easy to see why points play such an important role in the definition of the match, but there will be a lot of discussion that pertains as to why. This kind of information is vital in determining the rules for future tournaments and for strategies for future competitors. In reality points should reflect a trend towards a positive result because essentially they are the measurement for the match. Points should point us in the direction of a winner, and that was the case at 2012 World Championships.

The obvious trend we see in this section is the importance of scoring and maintaining points. The debate will surround whether or not the points play a role in the match or if they are merely a reflection of it. In a perfect world the points would always point you towards a winner, as the game is meant to reward the player who is the most skilled in the event that a submission is not achieved. This will never be the case 100% of the time, but it should always be the goal of the rulesmakers to reward the more skilled competitor. While this data would lead you to believe that the rules are currently in solid footing with the way everything has been represented, let's not lose site of the fact that more than half of matches were inevitable decided by less than 5 points, which is a very small margin. In the future we may track this metric as low as 2 points per match.

Section 3.1

Since we've had a chance to breakdown how matches started, developed, and finished let's now take a look at what techniques were utilized during this year's competition. This section will focus on two of

the most important elements of scoring points—passing and sweeping. Almost 73% of all points scored were done so from either a pass or a sweep. Passes accounted for 31%, while sweeps accounted for nearly 42% of all points scored.
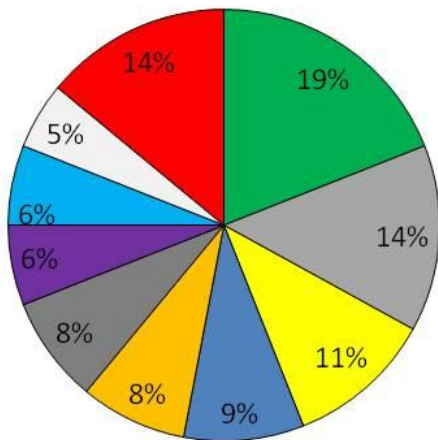
The most common sweep position this year was half-guard. The half-guard position accounted for 23% of all sweeps, De La Riva was a close second with around 20%, and third was spider guard which accounted for about 14% of all sweeps by position. The graph below further breaks down sweeps by starting position.
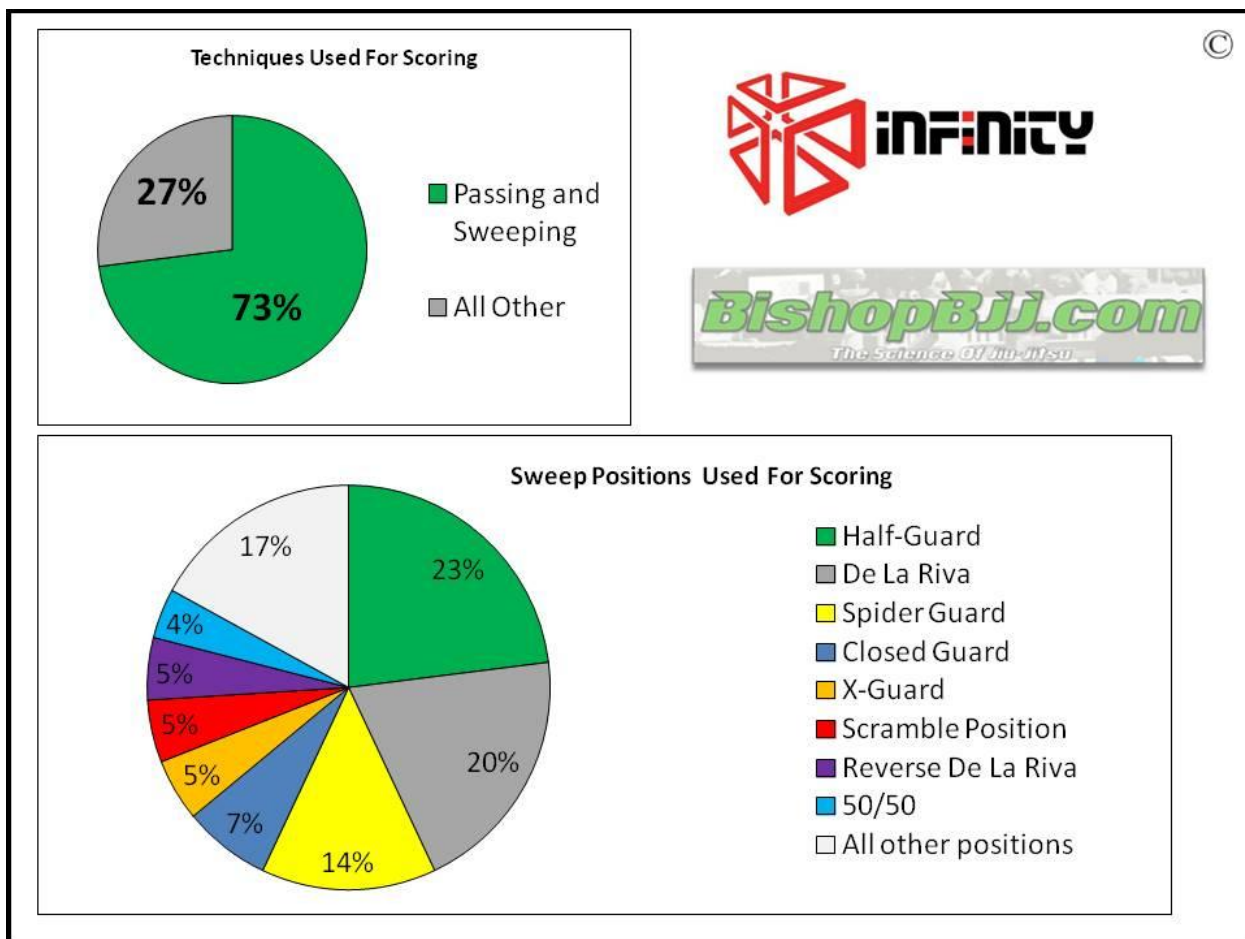
If we break down the sweeps even further we can see which types of sweeps were most prevalent from these positions. A scramble-type position in which one player went from bottom to top without a easily defined technique lead the way with approximately 19% of all sweeps scored, the berimbolo technique accounted for 15% of all sweeps scored, and deep half guard-style sweeps accounted for roughly 11% of all sweeps scored. The chart below breaks this down in greater detail.

Sweep Types Used For Scoring

- **Scramble (bottom to top)** — 19%
- **Berimbolo** — 14%
- **Deep-Half-style** — 11%
- **X-Guard-style** — 9%
- **Scissor-style** — 8%
- **Hook-elevation-style** — 8%
- **Trip/ankle pick** — 6%
- **Hip Over** — 6%
- **Omoplata sweep** — 5%
- **All others** — 14%

As stated in the opening abstract often the data that has the most truth is the data reflecting each weight-class. The chart below breaks down the most successful sweeps by weight class.

Sweeps-Type **By Weight Class**

Rooster: Berimbolo, Hip Over

Light-Feather: Berimbolo, Half-Guard Tomonagi

Feather: Scramble, Berimbolo

Light: Scramble, Omoplata Sweep

Middle: Scramble, Hip Over

Middle-Heavy: Berimbolo, Scissor-Style Sweep

Heavy: Deep Half Sweeps, X-Guard Sweeps

Super Heavy: X-Guard, Trips/Picks and Submission Used To Sweep

Ultra Heavy: Deep-Half Style, X-Guard

Womens: 100% Sweep, Berimbolo

Open Class: Scramble, Tornado Sweep and Deep Half-Style Sweep

The most common starting position for passing this year was from standing. Standing passes accounted for 43% of all successful passes this year. Passes from half-guard came in second with 31% of all successfully completed passes, and passes from the knees was the least common with only 26% of all successful passes. There was a tie for the most successfully utilized type of pass this year between the leg drag pass and the knee through-style pass, both accounting for 18% of successful passes each. Other successful passing types included knees-together smashing passes with 11% of successful passes, knee-cut passes from half-guard with 10%, and reverse sitting half-guard passes with another 10%. The chart below further breaks down the information.
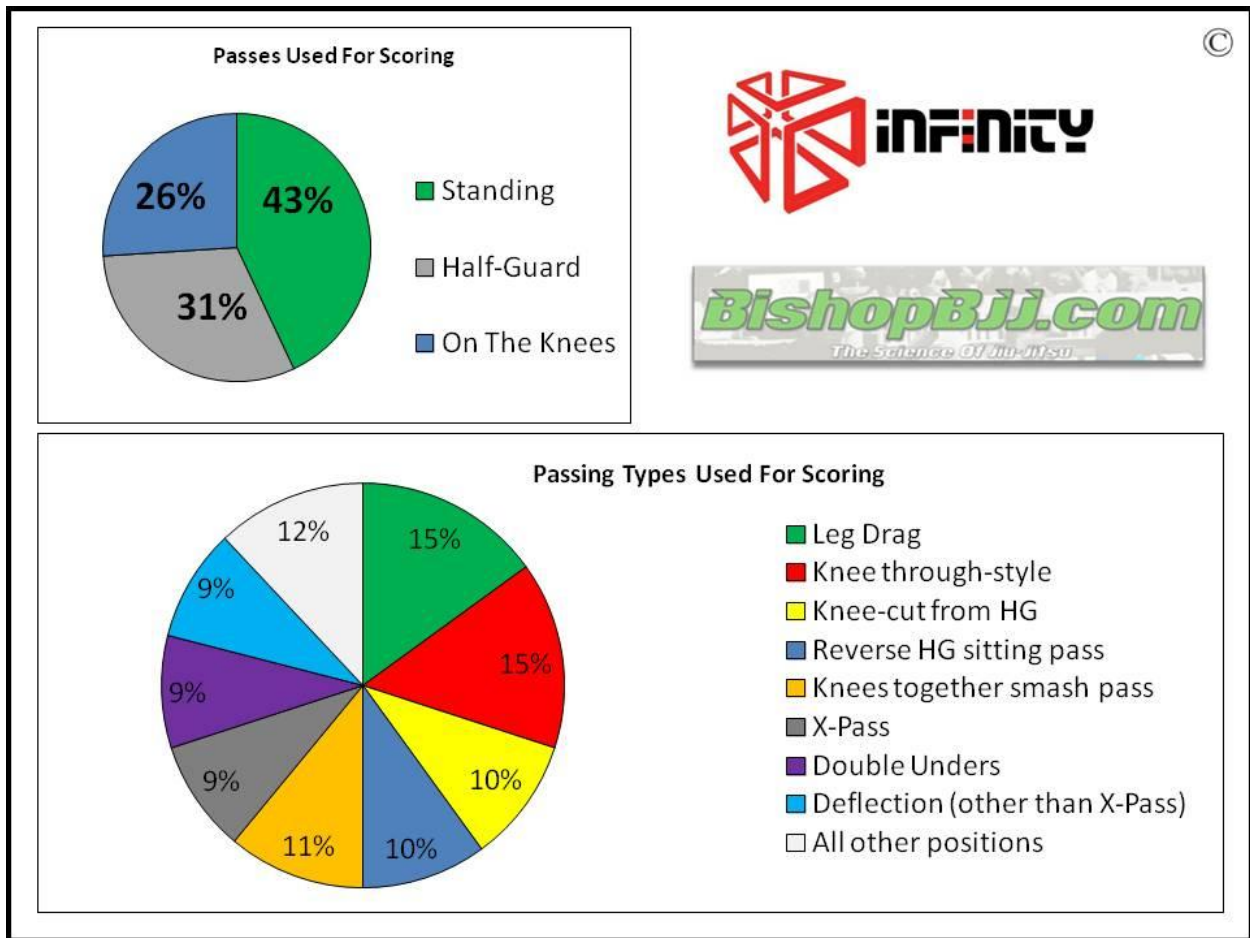
As we did with the passes, the chart below shows the most common passing types by weight class. It's interesting to see the leg drag pass is so prevalent up until lightweight, and then almost completely disappears. The trend we are seeing as that there tends to be more deflective style passing at the lower weights and more pressure passing at the higher weights.

Passes-Type *By Weight Class*

Rooster: Leg Drag, Reverse Half-Guard

Light-Feather: Leg Drag, Knees together smash pass

Feather: Leg Drag, Knee through style pass

Light: Knee through style pass, Half-Guard knee cut pass

Middle: Double-Unders pass, Knees together smash pass

Middle-Heavy: Knee cut from half-guard, knee through style pass

Heavy: Sprawl and pass from half guard, knee over the leg style pass

Super Heavy: knees together smash and pass, knee through style pass

Ultra Heavy: Reverse Half guard pass, knee through style pass

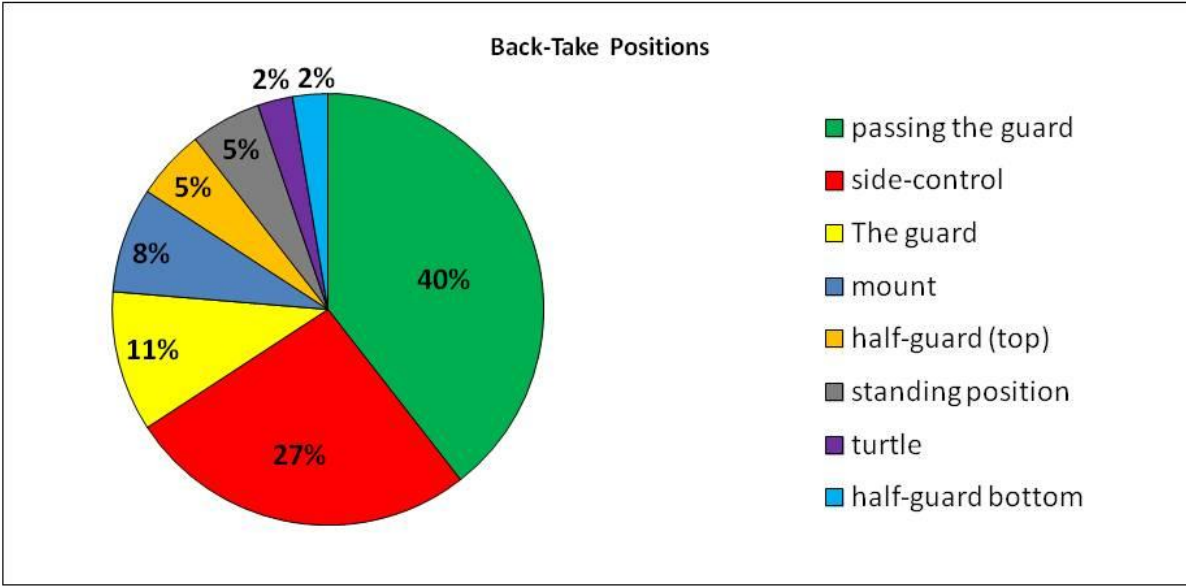**Womens:** Leg Drag, knee over the leg style pass

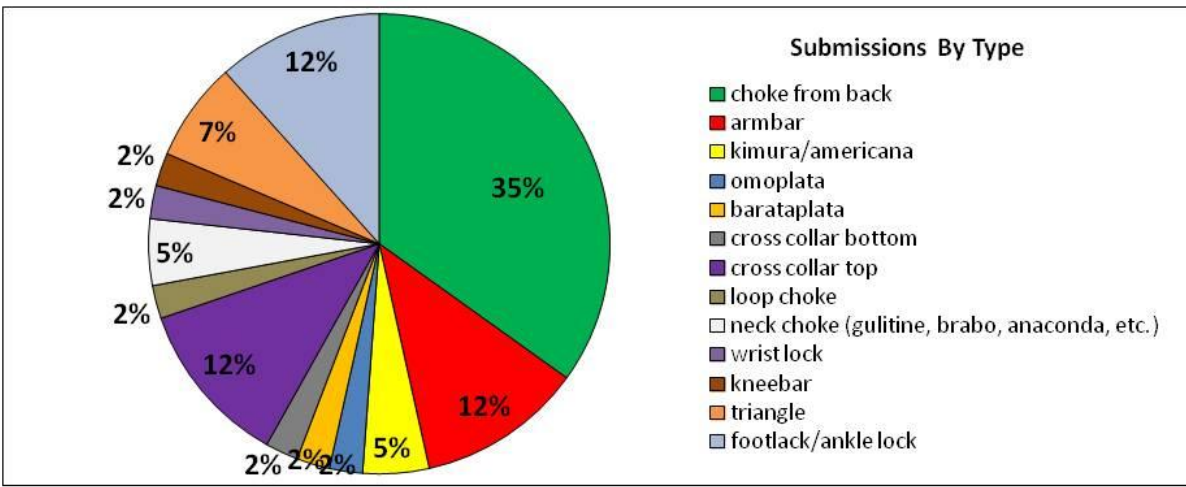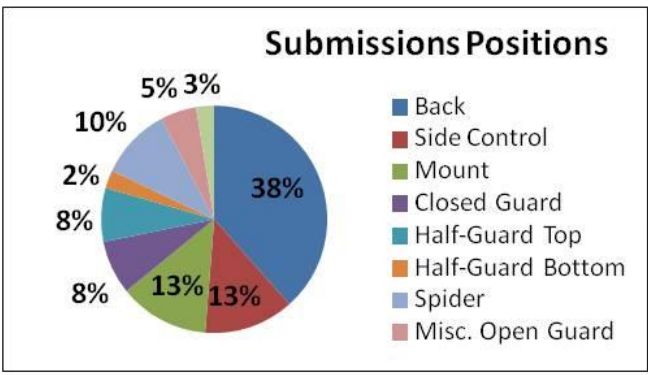**Open Class:** X-Pass, General Deflection pass

Section 3.2

We left off with an outline of the techniques that were used to pass and sweep opponents at the 2012 World Championships. We also learned that the vast majority of points scored throughout the tournament occurred by pass or sweep, but what about the other points, and what about submissions? In this section we will break down the rest of that material.

We know how people scored sweeps and passes now, but what about taking the back? The back was such a dominant position this year (as you will see when we break down submissions) we thought it was important to look at how competitors were scoring the position. It was interesting to learn that over 40% of back takes occurred while one competitor was passing the others guard, next most common back-take position was side control with a little over 27% of all back-takes. The chart below breaks down all positions in further detail, but we found it particularly interesting that the most common back-take position was actually a transition point rather than a position itself. It leads us to believe that tracking transitions in the future may lead to more interesting results (if that is possible).

Back-Take Positions

- passing the guard — 40%
- side-control — 27%
- The guard — 11%
- mount — 8%
- half-guard (top) — 5%
- standing position — 5%
- turtle — 2%
- half-guard bottom — 2%

But what is the benefit of taking the back you may ask? Not only is it a valuable 4 points, but the back provided to be the most common position in which a submission occurred from with 40% of submissions occurring from this position. The back carried the vast majority of submissions with the only other position carrying a large portion of the pie being side-control and mount with 11% each. Since the back was the most common submission position, it should come as no surprise that a choke from the back was the most common submission—accounting for 35% of all submissions observed. Again chokes from the back were the runaway favorite submission with armbars, footlocks, and cross-collar chokes from a top position following with 12% each. The chart below breaks down both categories.

Submissions Positions

- Back — 38%
- Side Control — 13%
- Mount — 13%
- Closed Guard — 8%
- Half-Guard Top — 8%
- Half-Guard Bottom — 2%
- Spider — 10%
- Misc. Open Guard — 5%, 3%

Submissions By Type

- choke from back — 35%
- armbar — 12%
- kimura/americana — 5%
- omoplata — 2%
- barataplata — 2%
- cross collar bottom — 2%
- cross collar top — 12%
- loop choke — 2%
- neck choke (gulitine, brabo, anaconda, etc.) — 5%
- wrist lock — 2%
- kneebar — 2%
- triangle — 7%
- footlack/ankle lock — 12%

The chart below breaks down which weight classes had the most submissions. It's interesting to see that there are slightly more submissions at the lighter weight classes than the heavier ones, although this is not a tremendous difference, you can't help but wonder why we are seeing a difference in the number of submissions. To further that point, we did not observe any submissions at the heaviest weight class in our entire study. You truly have to wonder if this is because of skill, competition, or another anomaly that is hard to account for.
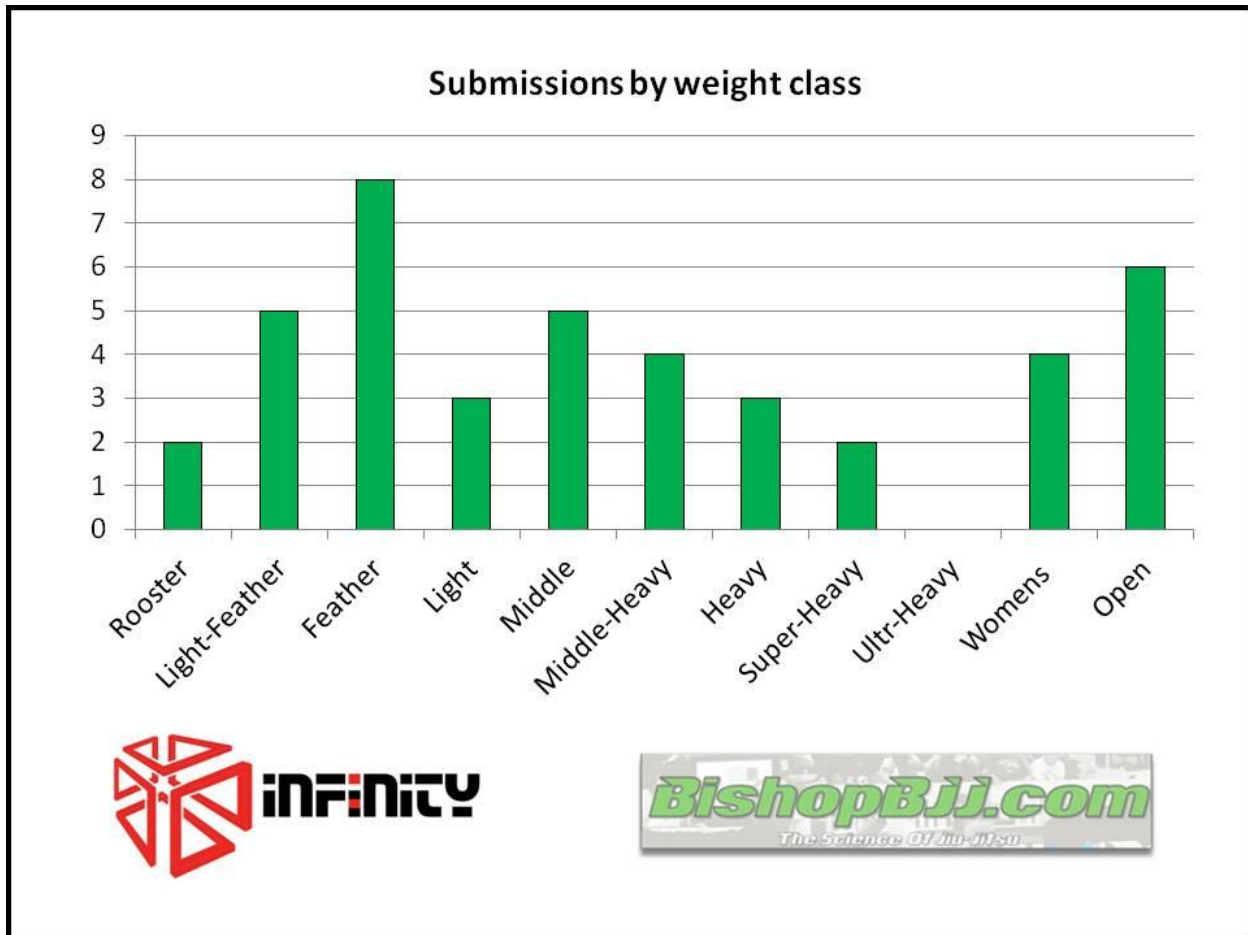
Conclusion

We love Jiu Jitsu here at BishopBjj.com, and put together this study because we believed it was a service that needed to be performed for the field. This is our passion, and we poured hours, days, and weeks into putting this altogether. We have made little to no money off of all our work in this study so far, and we sincerely hope that our work is appreciated enough that it can make a difference in the way the rules are built, competitors prepare, and success is measured. Please take some time to share this with any forums, social networks, blogs, or other thirds parties so we can spread this material virally. We believe it is a big step in the evolution of the sport, and are genuinely thankful for your support.

Sincerely,

BISHOPBJJ.COM (Tyler and Jena Bishop)