

Article

Playing High: Strategic Use of the Lob in Professional Padel

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Abstract: The aim of this study was to analyze the lob in professional padel, taking into account sex, the player's side of play, the direction of the lob and the efficiency of the lob. For this purpose, 2063 lobs (933 in men's and 1130 in women's) corresponding to 10 matches of the 2024 season of the Premier Padel circuit were analyzed through systematic observation. The results indicated that there is no association between the player who makes the lob according to the side of play in professional padel ($p = 0.796$) and the category of play (men's and women's). The distribution of lobs in these categories, both men's and women's, was distributed 50% between both players from the same pair. On the other hand, in men's professional padel, right-side players made more cross-court lobs (RTC = 3.3), while left-side players made more down-the-middle lobs (RTC = 2.0). In addition, in women's professional padel, right-side players made more cross-court lobs (RTC = 3.6), while left-side players made more down-the-middle lobs (RTC = 6.0). Finally, in men's padel, the lobs tended to overpass the opponents when they were down the middle (RTC = 4.1) and tended to not overpass when they were cross-court (RTC = 2.5). In conclusion, there are differences in the characteristics of lobs in professional padel according to sex. These results can be very useful for coaches for performing specific training on the lob according to the sex of their players.

Keywords: racquet sports; performance analysis; game actions; strokes; effectiveness; game analysis; technique; tactic



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1. Introduction

Padel has experienced exponential growth in recent times [1], likely due to its simple rules and the ease with which players can start enjoying the game from their first day of practice [2,3]. Recently, the International Padel Federation (FIP) announced that it now has affiliations with more than 80 countries [4]. Premier Padel, a professional circuit under the FIP, has emerged as the leading professional circuit following its acquisition of the World Padel Tour, which was the main professional circuit from 2013 until 2023. Nonetheless, the game dynamics in Premier Padel competitions have been scarcely studied [5].

Thus far, research on padel has predominantly centered around performance analysis [6,7]. The majority of these studies have focused on professional players [1,8,9]. These investigations have yielded valuable insights into the sport's dynamics and are categorized into four key domains: (1). Temporal structure analysis (playing time, rest intervals) [1,10]; (2). Movement analysis [11]; (3). Examination of game scores [12]; and (4). Examination of technical–tactical actions [13,14].

Regarding technical–tactical actions, the focus of the present study, volleys and overhead shots are the most frequently executed shots during a professional padel match, regardless of sex [15]. Specifically, in men's padel, the backhand volley is the most executed shot [15,16], whereas in women's padel, the bandeja (a type of overhead shot characteristic

of the sport) is most common [15]. Concerning the efficacy of the final shot in each rally, male professional players predominantly produce winners with the smash, followed by backhand and forehand volleys [17]. Female players, on the other hand, generate the majority of winners with the forehand volley, followed by the smash and the bandeja [17]. Conversely, these authors observed that male padel players tend to commit more errors (both forced and unforced) with volleys (forehand or backhand) and direct forehands, while female padel players most frequently commit errors (both forced and unforced) with the bandeja, followed by the forehand volley and direct backhand [17].

The lob, which is a technical–tactical action that involves sending the ball in an upward trajectory to pass over opposing players to overtake them and force them back into defensive positions, has become the main alternative to recover net position [18]. Therefore, due to its importance, it constitutes between 15.8% and 26.2% of shots in a match [11], producing approximately 80% of the points, at least 2–3 lobs [19], with around 50% of the shots being made directly after a bounce [20]. Research to date has mainly focused on analyzing the differences in usage between genders, indicating that female players make more lobs than male players [21] due to anthropometric differences between the two sexes [22] and as a result of differences in usage that result in changes in playing characteristics. Secondly, the type of stroke most commonly used to make the lob has been analyzed [21].

Therefore, given the limited research conducted on the lob in padel, particularly considering its decisive role in the game and the narrow scope of its analysis beyond comparing the frequency of use between genders and the types of strokes employed, the aim of this study was to analyze the lob in professional padel, taking into account sex, player's side of play, direction of the lob and the efficiency of the lob. The primary hypothesis was that the direction of the lob is influenced by the location from which it is executed. The secondary hypothesis suggested that the effectiveness of the lob varies depending on the direction in which it is performed.

2. Materials and Methods

2.1. Research Design

The design of this research is framed under empirical methodology and, more specifically, it is a study with a descriptive strategy. Likewise, it is included within the observational category, being nomothetic, punctual and multidimensional [23].

2.2. Sample

A total of 2063 lobs (933 lobs in the men's category and 1130 lobs in the women's category) were analyzed corresponding to 10 matches of the 2024 season (5 matches in the men's category and 5 in the women's category), from the quarter-final, semi-final and final rounds of the Premier Padel circuit 2024. The male players ($n = 12$; laterality = 2 left-handed and 10 right-handed) and the female players ($n = 12$; laterality = 2 left-handed and 10 right-handed) had a minimum experience of 5 years competing at professional level in tournament of the International Padel Federation. No injuries were reported from 6 months before the first match or during the matches under study. All procedures were conducted according to the ethical standards in sport and exercise science research [24] and the local ethics committee.

2.3. Study Variables

The following variables were defined and analyzed based on their categorical core and degree of openness [25]:

- Sex: a distinction was made between male and female players.
- Side of play: differentiating between right-side players and left-side players (Figure 1) [26].
- Lob direction: the classification proposed by Ramón-Llín et al. [26] was taken, distinguishing three possible directions of 3.33 m each: down the line (the ball is hit straight by the player to the same side of the court from which they are playing), cross-court (the

- ball is hit diagonally by the player to the opposite side of the court from their position) and to the middle of the court (the ball is hit to the central zone of the court) (Figure 1).
- Lob efficacy: a distinction was made between the lobs that overtook the opposing pairs (the ball bounced behind the opposing players before being hit) and those that did not overtake the opposing players (the ball was hit before bouncing in the opponent's court).

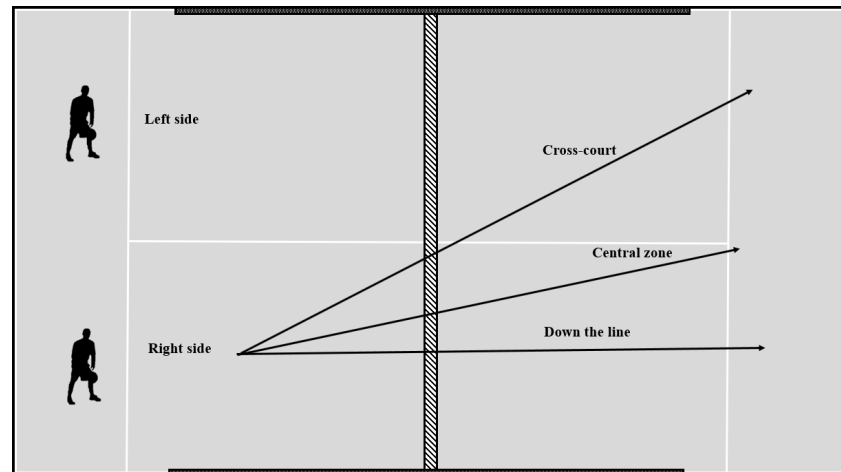


Figure 1. Side of play and lob directions.

2.4. Procedure

The analyzed matches were streamed and subsequently hosted on the Premier Padel section of Red Bull's website (<https://www.redbull.com>, accessed on 1 May 2024). We downloaded and saved these matches for observational data collection and analysis. For systematic observation during the recording and data collection process, we utilized the specialized LINCÉ video analysis software v2.1.0. [27], and developed an ad-hoc instrument to analyze the variables under study. Additionally, we employed the open-source software Kinovea (v.0.8.15; www.kinovea.org, accessed on 5 May 2024) to overlay visual grids on the video image of the court area for data recording. These grids differentiated between the right and left sides of the court, as well as the down-the-line, cross-court and middle-court directions, thereby enabling objective observation based on precise measurements of each zone. A PhD student in sports sciences, who is also a certified padel coach with extensive published research related to this study, served as the primary observer, recording all study variables during the matches. Upon completing the data collection process, we conducted an intra-observer reliability analysis using Cohen's kappa to ensure the accuracy of the collected data [28]. The observer then reanalyzed a random sample of 310 lobs to secure a representative dataset, constituting 10–20% of the total study sample [29]. The mean intra-observer reliability was 0.89, which is considered almost perfect [30]. To further validate the findings, a second observer, also a PhD in sports sciences and a certified padel coach with extensive relevant published research, analyzed the same random sample of 310 lobs. This enabled the calculation of inter-observer reliability between the two observers, resulting in a kappa value of 0.86 [30]. According to Altman [31], these kappa values indicate a very good strength of agreement (>0.80).

2.5. Statistical Analysis

First, The Kolmogorov–Smirnov test was performed to determine the normality of the data [32]. An inferential analysis was performed to develop contingency tables, including the Chi-square (χ^2) statistical test to obtain the association between variables. The strength of association between variables was also calculated, for which Cramer's V coefficient (V_c) was used [32]. Crewson [33] differentiates the strength of association according to the value, considering a small (<0.100), low (0.100–0.299), moderate (0.300–0.499) or high (>0.500) association. Contingency tables allowed the identification of associations between variable

categories through corrected standard residuals (CSR). Residuals $> |1.96|$ betrayed cells with more or fewer cases than there should be [32]. The significance level was set at $p < 0.05$ and the statistical analysis was performed using the SPSS 27.0 statistical package for Windows.

3. Results

Table 1 shows the comparison between the player's side of play and gender in the use of lob in professional padel. There is no significant association between which players, depending on the side of play, hit the lob in professional padel ($p = 0.796$) and the category of play. The distribution of lobs across male and female categories shows an approximately 50/50 equal split between sides.

Table 1. Lobs in professional padel: degree of association between player's side of play and sex.

	Right Side			Left Side			<i>p</i>
	N	%	CSR	N	%	CSR	
Men	471	50.5	0.3	462	49.5	−0.3	0.796
Women	564	49.9	−0.3	566	50.1	0.3	

Note. N: number; %: percentage; CSR: corrected standard residuals.

Figure 2 shows comparison between the player's side of play and directions in the use of lobs in men's professional padel. There is a significant association between the player's side of play and the lob direction ($\chi^2 = 11,033$; $df = 2$; $p = 0.004$; $V_c = 0.109$) in the men's category. There is a higher probability than expected (CSR = 2.0) that the player on the left side makes down-the-line lobs, while the player on the right side makes a higher percentage of cross-court lobs (CSR = 3.3).

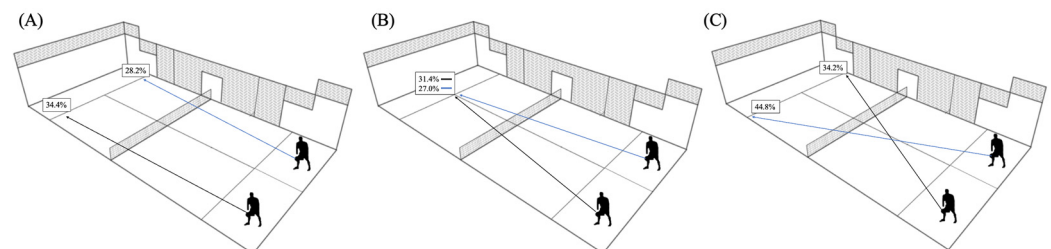


Figure 2. Lobs in men's professional padel: degree of association between the player's side of play (black line: left side; blue line: right side) and direction ((A): down-the-line; (B): central zone; (C): cross-court).

Figure 3 shows the comparison between the player's side of play and directions in the use of lobs in women's professional padel. There is a significant association between the player's side of play and the lob direction ($\chi^2 = 38,509$; $gL = 2$; $p < 0.001$; $V_c = 0.185$) in the women's category. There is a higher probability than expected (CSR = 3.6) that the player on the right side makes down-the-middle lobs, while the player on the left side makes a higher percentage of down-the-line lobs (CSR = 6.2).

Figure 4 shows the comparison between lob efficacy and direction in men's professional padel. There is a significant association between the lob efficacy and the lob direction ($\chi^2 = 16,611$; $gL = 2$; $p < 0.001$; $V_c = 0.133$) in the men's category. There is a higher probability than expected (CSR = 4.1) that the overpassed lobs are directed down the middle, while the lobs which do not overpass the opponents are cross-court (CSR = 2.5).

Figure 5 shows the comparison between lob efficacy and direction in women's professional padel. There is no significant association between the lob efficacy and the lob direction ($p = 0.779$) in the women's category.

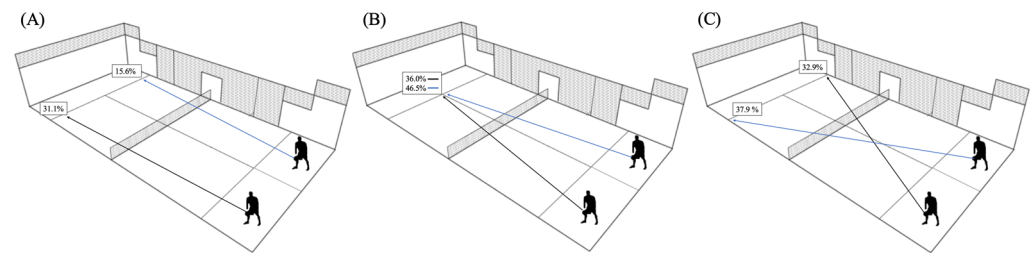


Figure 3. Lobs in women’s professional padel: degree of association between the player’s side of play (black line: left side; blue line: right side) and direction ((A): down-the line; (B): central zone; (C): cross-court).

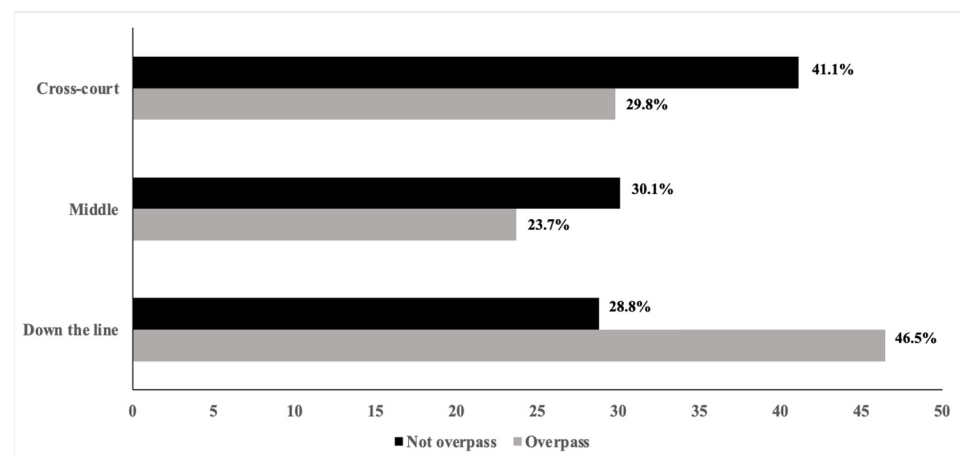


Figure 4. Lobs in men’s professional padel: degree of association between lob efficacy and direction.

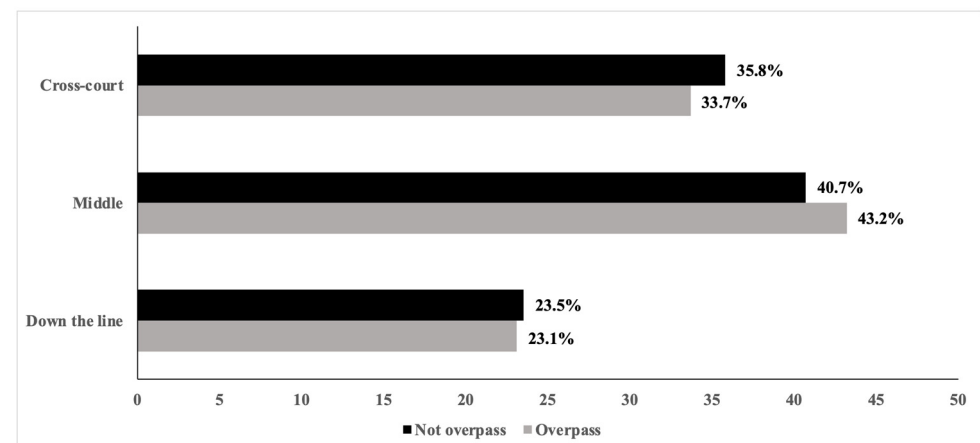


Figure 5. Lobs in women’s professional padel: degree of association between lob efficacy and direction.

4. Discussion

The aim of this study was to analyze the lob in professional padel, taking into account sex, the player’s side of play, the direction of the lob and the efficiency of the lob.

Irrespective of the sex, players from the right and left sides play a similar proportion of lobs during a match (Table 1). To the best of our knowledge, there is no prior research which focused on this particular aspect at the professional level. Nevertheless, in high-level male players (1st category from Spain), right-side and left-side players also hit a similar proportion of lobs [26]. This uniformity in lob usage may be attributed to the tactical versatility and adaptability required at professional levels, where players must employ a wide range of shots effectively, regardless of their position.

In men's padel, right-side players tend to play cross-court lobs, whereas left-side players tend to play down-the-line lobs (Figure 2). Even though most of the padel shots are hit cross-court [16], this could be attributed to the fact that players try to lob to the right-side player so as to avoid the left-side player to play an overhead shot due to their more aggressive performances on these shots [34]. Regarding differences between strokes on each game side, Ampuero et al. [5] found that right-handed, left-side players play more backhand lobs than right-handed, right-side players, while the latter play more forehand lobs. These findings suggest that the tactical choices in lob direction are influenced by both the need to counteract the strengths of opponents and the inherent stroke preferences of players based on their position and handedness, highlighting a nuanced layer of strategy in high-level padel.

In women's padel, right-side players tend to play more down-the-middle lobs, whereas left-side players tend to play more down-the-line lobs (Figure 3). This strategy suggests that female players on the right side might be aiming for the backhand shoulder of the opposing right-side player, assuming they are right-handed, which is the most common scenario. Conversely, left-side players might be aiming down the line so that right-side player, who is usually the less skilled player, is the one hitting.

Regarding lob efficacy in terms of successfully passing over the opponents, only 16.3% of lobs in men's padel achieve this purpose. In other words, 83.7% of lobs are intercepted and hit with an overhead shot by the opposing pair. The primary reason for this high percentage of ineffective lobs is that pairs positioned close to the net choose not to abandon this offensive position, as 80% of points in padel are won by the pair in the net zone [35]. Directing the lob down the line appears to be the most effective option in men's padel for surpassing the opposing pair, whereas aiming cross-court seems to be the least effective option (Figure 4). This seems logical because the opposing player directly in front of the hitting player is typically closer to the net than his partner. Additionally, the distance the ball needs to travel is shorter down the line than if the lob were aimed cross-court. Therefore, the player in front has less time to react and respond to the lob with an overhead shot.

Regarding lob efficacy in terms of successfully passing over opponents, only 26.1% of lobs in women's padel achieve this purpose. In other words, 73.8% of lobs are intercepted and hit with an overhead shot by the opposing pair. However, it appears that the direction of the lob does not affect its ability to surpass the opponents (Figure 5).

4.1. Practical Applications

Playing a good lob may have several tactical intentions, such as gaining time to reposition, wearing down the opponent by playing many lobs, or gaining the net. To increase their chances of winning, players should aim their lobs either to surpass their opponents without leaving an easy ball for them to counterattack, thereby gaining the net, or forcing them to hit an uncomfortable overhead shot.

Tailoring training sessions to suit the distinct playing styles of male and female athletes is crucial. Emphasizing on-court exercises aimed at refining lobs to enhance decision-making and execution is encouraged. By recognizing and addressing sex-specific nuances in training approaches, players can optimize their preparation strategies for improved on-court success. Coaches and players should work together to ensure that players, regardless of their playing position, master the lob, as it is a key shot in padel. To achieve this, they could consider the findings of the present study, which can be very useful for coaches in designing specific lob training according to the sex of their players.

Coaches may integrate on-court drills that emphasize the depth of the lobs by proposing exercises where overhead shots can only be hit from behind the service line, with penalties for non-compliance. Furthermore, implementing simulated match scenarios or pressure situations during practice sessions can enhance players' lob executions in real game situations. For example, coaches can encourage left-side male players to lob down the line if the goal is to surpass the opponents.

4.2. Strengths and Limitations

This study is one of the few that focuses solely on the lob, making it a pioneering study in the context of Premier Padel. However, there are several limitations to consider. The sample size could be larger and more representative, as it included only 10 matches (5 men's and 5 women's) from the same tournament. Expanding the sample to include more matches and a higher number of players would be beneficial. Additionally, it would be interesting to conduct similar research with non-professional players to compare the findings.

5. Conclusions

This study provides several relevant conclusions about the execution of the lob in padel, a key technique for creating advantageous situations during play. The analysis shows no significant differences in the number of lobs executed from different sides of the court, regardless of player gender, indicating that the side of play does not influence the use of the lob as a tactical option to approach the net. However, notable differences between men's and women's padel were observed in terms of the effectiveness and direction of the lobs.

In men's padel, right-side players predominantly use cross-court lobs, while left-side players show a slight preference for down-the-line lobs. The right-side player receives most of the lobs, likely due to the higher proportion of right-handed players and the lower effectiveness of returns from this side. In contrast, in women's padel, the predominant lob direction is toward the middle from both sides, aimed at causing indecision between the opponents regarding who will take the shot.

This study also shows that lobs surpass opponents more frequently in women's padel, suggesting that the lob is more effective for women for gaining control of the net. In men's padel, the highest success rate comes from down-the-line lobs, while cross-court lobs are less effective, likely due to the differences in reaction times. The middle lob is the most commonly used lob in women's padel but is also less effective as it aims to reduce the success of smashes by making it more difficult for opponents to return the ball cleanly.

In conclusion, this study highlights significant differences in lob execution between genders and court positions, providing valuable insights for improving technique and decision-making in padel.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data analyzed were streamed and subsequently hosted on the Premier Padel section of Red Bull's website (<https://www.redbull.com>, accessed on 1 May 2024).

Conflicts of Interest: The authors declare no conflicts of interest.

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