



Factors that enable breakthroughs in tennis: A case study of elite college tennis players in Japan

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ABSTRACT

In the world of sports, the phenomenon of a dramatic improvement in competition results at some point is called a “breakthrough.” In this study, “breakthrough” is defined as “a dramatic improvement in competition results at some point,” and the purpose of this study is to reveal hypothetical findings on the factors that enable “breakthroughs” in tennis. Semi-structured interviews were conducted with eight Japanese college tennis players who had experienced a “breakthrough” in the past, and who had records of being in the top 8 or above in national championships. The interview content was transcribed and used to conduct a qualitative analysis. As a result, the following three hypothetical findings were revealed: “maintaining high motivation,” “continuous growth,” and “high performance during games” are important for enabling “breakthroughs” in tennis. Those hypothetical findings will be useful information for athletes who are aiming for “breakthroughs” and for coaches who support them.

Key words: breakthrough, expertise, tennis, qualitative research.

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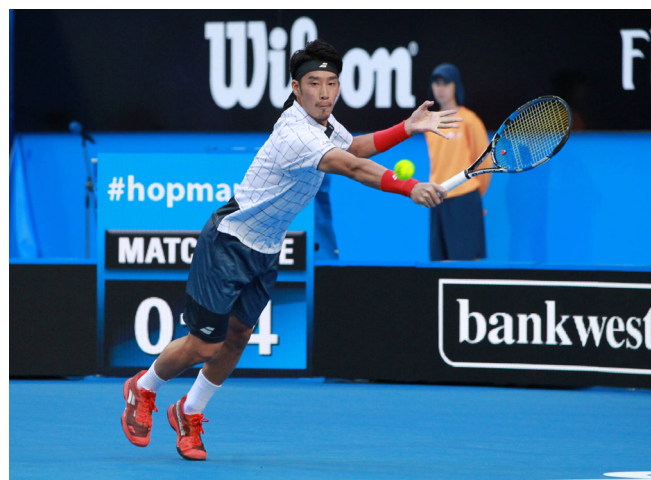
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INTRODUCTION

In the world of sports, the phenomenon of a dramatic improvement in competition results at some point is called a “breakthrough.” The word “breakthrough” generally refers to breaking through a difficulty or barrier. In the world of sports, at the Laureus World Sports Awards, also known as the Academy Awards of the sports world, Laureus World Breakthrough of the Year is awarded to athletes who show rapid growth throughout the year. Thus, the word “breakthrough” has become a keyword that attracts attention in the sports world.

Roger Federer, the former number one tennis player, and a six-time Laureus World Sportsman of the Year laureate, said in an interview, “2003 was a breakthrough year for me” (Tennis Classic editorial department, 2020). Ranked 3rd in the world at the time, he won his first title at the Nitto ATP Finals and moved up to No. 2 in the world rankings. In that tournament, he defeated Andre Agassi, the former No.1 player, and looked back, saying, “It opened up my belief that I could fight and defeat the best baseliner head-on” (Tennis Classic editorial department, 2020). Then, two months later, he won the Australian Open and took over the world rankings and held that position until August 2008.

In addition, Naomi Osaka, a former world champion, became the first Japanese player to win the Laureus World Breakthrough of the Year in February 2019. She jumped from No.68 in the world rankings at the end of 2017 to No.1 after winning the US Open in August 2018 and the Australian Open in January 2019.



The phenomenon of a dramatic improvement in competition results at some point in sports is conceivable this way. And the interest of this research is to find out what factors enable “breakthroughs.” There are no studies, yet, dealing with “breakthroughs” in the field of sports and there is no clear definition of what a “breakthrough” is. Therefore, in this study, “breakthrough” is operationally defined as “a dramatic improvement in competition results at some point.”

In reviewing the previous studies relating to “breakthroughs,” we can study those that have acquired advanced knowledge and skills in a specific field (otherwise known as experts). Research has also been conducted to reveal how these experts acquired their skills. For example, Ericsson (1996)

proposes that it takes more than ten years of practice and experience to acquire high levels of knowledge and skills. Furthermore, it has been stated that it is not enough just to go through ten years of practice and experience and that the practice must be a “deliberate practice” that requires a high level of concentration and effort (Ericsson et al.,1993).

Therefore, it is conceivable that the development of skills may be an important factor that enables a “breakthrough.” But, if a “breakthrough” is defined as “a dramatic improvement in competition results,” it is necessary to understand “breakthroughs” from a more comprehensive perspective, including the perspective of acquisition of advanced knowledge and skills, the perspective of changes in competition results, and the clarification of factors behind such “breakthroughs.”

Due to the paucity of previous research on “breakthroughs,” it is difficult to hypothesize factors that enable such a scenario. Therefore, it is necessary to conduct exploratory research aimed at generating hypothetical findings on factors that enable “breakthroughs.” Qualitative research is said to be an effective research method for exploratory research into unknown phenomena and the characteristics of people's experiences (Nochi, 2000).

Therefore, in this study, we conduct qualitative research focusing on the experiences of tennis players who have experienced “breakthroughs” in the past and reveal hypothetical findings on factors that enable such instances. The hypothetical findings of this study are thought to be of useful information for athletes aiming for “breakthroughs” and for coaches who support them.

METHODS AND PROCEDURES

Subject

The subjects of this study were Japanese college tennis players who had experienced “breakthroughs” in the past and had won top prizes in the national championships in Japan. The subjects of this study are shown in Table 1. It is hoped that the subjects of this study remember episodes of their “breakthroughs” and the factors that made it possible. Therefore, in this study, the following two selection criteria were used to select the survey subjects. (1) Have experienced “breakthroughs” in a tennis competition in the past, and (2) achieved top 8 or higher in an individual game at a national championship. The reason for this is that it is expected that national top-class college athletes have more episodes of “breakthroughs” than other athletes.

The subjects of this study were eight Japanese college tennis players (four males and four females, average age 19.9±0.6 years) who met the above two selection criteria and cooperated in the survey. The study was conducted after confirming that the above two selection criteria were met.

Table 1
Attribute of subjects .

Subjects	Gender	Age	Best Results in National Championship
A	Male	21	Winner
B	Male	20	Winner
C	Female	20	Winner
D	Female	20	Winner
E	Female	20	Runner-up
F	Female	19	Runner-up
G	Male	20	Quarterfinals
H	Male	19	Quarterfinals

Procedure

The survey period was from April 2021 to November 2022. In this study, a semi-structured interview method was adopted. The survey was conducted online (videoconferencing using Zoom) and lasted 40 to 100 minutes (an average of about 68 minutes). The interview was centered on the question “Looking back on your career, when do you think you had your breakthrough?” “Why do you think 'breakthroughs' are possible?” and the interviewees were asked to give specific episodes in their answers.

In addition, as ethical considerations, the survey participants were informed of the right to refuse participation in the study, of the handling of their personal information, and that their anonymity would be preserved. They were also informed of the necessity to record the contents of the interviews to transcribe them into text. Their survey was conducted after obtaining their consent.

Data Analysis

A qualitative inductive analysis was conducted. The procedure is as follows. First, we made a verbatim transcript of the self-talk data. Next, sentences that were related to factors that enable “breakthroughs” were extracted from the verbatim transcript of 90855 characters. The 101 extracted sentences were separated by meaningful phrases and codes. Codes were grouped according to the similarity of their contents and subcategorized with appropriate and concise words. Subcategories were grouped according to the similarity of their contents and categorized with appropriate and concise words.

RESULTS

As a result of the analysis of the interview content, the 101 semantic units were classified into 13 subcategories, and finally into three categories: “maintaining high motivation,” “continuous growth,” and “high performance during games” (Table 2).

The contents of each category and subcategory are described in detail below. The codes representing the categories and subcategories and the utterance data are shown in Tables 3, 4, and 5. The codes are denoted by [], subcategories by < >, and categories by « ».

Table 2
Overall Results

Category	Subcategory	Subjects							
		A	B	C	D	E	F	G	H
maintaining high motivation	setting achievable goals	○	○	○			○	○	
	setting goals related to the skill		○	○		○			○
	having a reason	○					○	○	○
	observing games			○	○		○		
continuous growth	increasing practice		○	○		○	○	○	○
	practicing with better players	○		○		○		○	○
	recognizing own strengths and weaknesses	○	○	○		○	○		○
	trying new ideas	○		○		○		○	○
	escaping from mistaken beliefs			○		○		○	○
high performance during games	match emulation	○				○	○	○	
	game repetition			○	○		○		
	focusing on what should be done	○				○		○	
	taking it easy		○	○	○	○			○

Place a "○" for subjects with a self-talk that corresponds to the subcategory.

Maintaining high motivation

In the category of «maintaining high motivation», the content is related to motivation for continuing daily practice and training (Table 3-1). This category consists of four subcategories: <setting achievable goals>, <setting goals related to the skill>, <having a reason>, and <observing games>.

First, in the subcategory of <setting achievable goals>, it was shown that the goal should be set as high and clear as possible within the feasibility of the goal. Next, in the subcategory of <setting goals related to the skill>, it was shown that setting a goal related to their play, in addition to achievement goals at competitions was important. Next, in the subcategory of <having a reason>, it was shown that the reason for aiming to achieve the goal should be clarified, such as "I want to win for the sake of..." Next, in the subcategory of <observing games>, the importance of visiting and watching target competitions and matches was shown.

Continuous growth

In the category of «continuous growth», the content is related to continuing to improve competitiveness (Table 3-2). This category consists of five subcategories: <increasing practice>, <practicing with better players>, <recognizing own strengths and weaknesses>, <trying new ideas>, and <escaping from mistaken beliefs>.

First, in the subcategory of <increasing practice>, it was shown that increasing the amount of practice due to changes in the environment, and time for independent practice due to going on to schools of higher education was important. Next, in the subcategory of <practicing with better players>, it was shown that creating opportunities to practice with players who are at a higher level or who are better at certain skills

was important. Next, in the subcategory of <recognizing own strengths and weaknesses>, it was shown that understanding one's own strengths and weaknesses through feedback from coaches, self-analysis, and review of matches was important. Next, in the subcategory of <trying new ideas>, it was shown that to improve one's skills, continuing to make changes based on what one noticed in matches and feedback from coaches was important. Next, in the subcategory of <escaping from mistaken beliefs>, it was shown that breaking free from one's own false common sense, which had been formed by accumulating experience and knowledge, was important.

High performance during games

In the category of «high performance during games», the content is related to demonstrating the skills developed through practice and training in an environment different from practice, such as a match (Table 3-3). This category consists of four subcategories: <match emulation>, <game repetition>, <focusing on what should be done>, and <taking it easy>.

First, in the subcategory of <match emulation>, it was shown that daily practice should be approached with pressure like that of a game. Next, in the subcategory of <game repetition>, it was shown that to get accustomed to the environment of the game, which is different from daily practices, experiencing many opportunities of the game was important. Next, in the subcategory of <focusing on what should be done>, it was shown that regardless of the opponent's level, clarifying what one should do during the game and playing without hesitation was important. Next, in the subcategory of <taking it easy>, it was shown that approaching the games with less excessive expectations towards themselves and less excessive attachment to winning or losing was important.

Table 3-1

Typical utterance of «maintaining high motivation».

«maintaining high motivation»
<setting achievable goals>
<p>[Set goals that can get serious] I think the breakthrough moment is the moment when you want to win a tournament or when you are serious about it. When you have a goal, and you are serious about it, you will notice a lot of things while you are playing. [Subject A]</p> <p>[Set clear goal] First, set a clear goal in your mind. If you want to enter the main tournament, enter the main tournament, if you want to go to the national tournament, enter the national tournament. [Subject C]</p>
<setting goals related to the skill>
<p>[Set a goal of ideal play] I set goals for how I want to play. [Subject B]</p> <p>[Practice to achieve ideal play] Rather than finding the issues, I practice thinking about how I want to play and how I want to be able to hit the ball. [Subject H]</p>
<having a reason>
<p>[The desire to win for higher education] I wanted to enter the high school of my choice. When I am under pressure to achieve results for that purpose, I may be motivated and become stronger. [Subject F]</p> <p>[The desire not to lose for the sake of teammates] I feel that it was important for me to feel that I could not lose for the sake of my friends around me. This had a positive effect on me to the extent that I did not feel pressured. [Subject G]</p>
<observing games>
<p>[Go to the venue of the competition you are aiming for] You will not know what a national tournament is like or what the atmosphere is like unless you have been there. It is important to go there and think "I want to play here". [Subject D]</p> <p>[Watching a tournament that was not able to compete in] I went to see the tournament that I lost in the qualifying round. When I saw people playing in that tournament, I felt even more that I wanted to play there myself. [Subject F]</p>
Categories are denoted by « », subcategories by < >, codes by [] , and subjects who spoke by []

Table 3-2

Typical utterance of «continuous growth».

«continuous growth»
<increasing practice>
<p>[Increased practice due to environmental changes] I think the amount of practice has increased a lot since I entered high school. I practiced from past 7:00 to around 8:00, went to club activities in the afternoon, and went to tennis school afterward. [Subject E]</p> <p>[More time for self-practicing] If I did not have a good practice that day, I practiced by myself after that practice. I also practiced a lot by practicing in my free time or by asking my coach to practice with me. [Subject F]</p>
<practicing with better players>
<p>[Ask a higher-level player to practice with] I think it's important to practice with higher-level players. Practicing with higher-level players makes you realize more and makes you think that you have to reach this level to win. [Subject A]</p> <p>[Practice with players who have the skills you want to learn] In my case, I am not good at doubles at all, so I have been practicing with a senior who is a strong doubles player. As a result, I am finally gaining confidence. [Subject H]</p>
<recognizing own strengths and weaknesses>
<p>[Finding strengths and weaknesses through self-analysis] It is important to do a thorough self-analysis and think about your strong points and your weak points. Specifically, you need to look at the games you played when you were good and determine what style of play you will adopt. [Subject B]</p> <p>[Finding challenges from the game regardless of whether you win or lose] Sometimes I have perfect matches, but usually, I have problems whether I win or lose a match. Especially in losing matches, I know that this shot was not good enough, so I try to practice it. [Subject C]</p>
<trying new ideas>
<p>[Adopt and discard new skills] I believe that players who can adopt new skills and make a choice for them are the strongest. [Subject G]</p> <p>[Make an exaggerated change] When we lost the national tournament last year, my persistence didn't work at all, and I realized that I had to attack. For about six months after that tournament, I made a conscious effort to play extremely aggressively in practice and competitions. [Subject A]</p>
<escaping from mistaken beliefs>
<p>[Escape from the assumption that offense is the only strategy] In practice, we often do offensive practice, such as chance ball practice and volleying practice. In addition, when I watch professional matches, points won by winners tend to be the focus, and that image has stuck in my mind. [Subject E]</p> <p>[Understand the importance of reducing errors] Until now, I had an ideal pattern of attacking points, and I was obsessed with winning points with that pattern. However, after entering the university, I have come to understand that it is very important to be persistent and patient. [Subject E]</p>
Categories are denoted by « », subcategories by < >, codes by [] , and subjects who spoke by []

Table 3-3.
Typical utterance of «high performance during games».

«high performance during games»
<match emulation>
<p>[Increase tension in practice] The atmosphere in practice was so scary that I was not allowed to make mistakes. I think it was probably similar to the pressure in a game. Personally, the pressure to not make mistakes was greater than in games. [Subject G]</p> <p>[Play a practice match under pressure] Unlike when I was in tennis school, I pushed myself in the matches within the club, as if I was the strongest player and should not lose to others. [Subject E]</p>
<game repetition>
<p>[Play the game until the game becomes like practice] I think it's important to play games regularly. Even if you practice a lot, it is completely different from playing matches. Winning or losing, it's important to get a feel for the game. [Subject D]</p> <p>[Regularly compete in tournaments] I think it is important to participate in many tournaments. When I was a junior high school student, I used to participate in a tournament once a month, even though it was a low-grade tournament. I think it is important to have a good feel for the game. [Subject F]</p>
<focusing on what should be done>
<p>[Focus on what you can do, even if your opponent is strong] When I was playing against strong players, I did not want to be weak or to be pushed by pressure. I was conscious of playing my tennis no matter what my opponent was doing. [Subject A]</p> <p>[Try not to get lost in the game.] If you want to play sticky, keep hitting the sticky ball and wait until you have a chance. On the other hand, if you want to play offensively, you need to keep hitting the ball offensively. Halfway is the worst. [Subject E]</p>
<taking it easy>
<p>[Play the game with a spirit of challenge] It's very nerve-wracking to play an important match against a superior player. So, I think it is a good idea to play every match as if you are going broke. [Subject D]</p> <p>[Try not to be too conscious of winning or losing] I think I play well when I don't expect much from myself. It is not that I don't want to win, but when I don't care too much about winning or losing, the results are better. Maybe it is mental relaxation. [Subject B]</p>
Categories are denoted by « », subcategories by < >, codes by [] , and subjects who spoke by []

DISCUSSION

The purpose of this study is to reveal hypothetical findings on the factor that enable “breakthroughs” in tennis. As a result, the following three hypothetical findings were revealed: “maintaining high motivation,” “continuous growth,” and “high performance during games” are important for enabling “breakthroughs” in tennis.

This suggests that to achieve a “breakthrough,” in addition to improving competitive performance, it is necessary for one to carry out their daily practice and training with strong motivation and to be able to fully demonstrate their competitive ability in the special environment of competition, which is different from practice. From this point on, we will focus on each category and make a discussion.

Maintaining high motivation

To achieve a “breakthrough” in tennis, it is necessary to practice and train daily and continue to improve. Ericsson et al. (1993) showed that athletes who have reached the “professional” level have accumulated 10,000 hours of deliberate practice by the age of 20. Deliberate practice is defined as a practice that requires players to perform sophisticated tasks, provide feedback, repetition, error correction, and have a specific set of goals. It is also said a “painful” and “tedious” practice also requires dedication and commitment. To accumulate such practice without giving up, high motivation and mental strength are necessary. In fact, a study comparing the motivation of professional and amateur tennis players demonstrated that professional players have a higher level of motivation (Butt & Cox, 1992).

The subjects used various methods to stay highly motivated. First, in the subcategory of <setting achievable goals>, the importance of setting clear goals at appropriate heights was demonstrated. Goal setting theory (Locke & Latham, 1990) indicates the importance of goals being somewhat difficult

and challenging, and of having concrete goals with numerical values and deadlines, rather than vague goals. In this manner, setting goals and the motivation to achieve them have been demonstrated to be essential factors in the growth of talented junior tennis players (Unierzyski, 2003).

Next, in the subcategory of <setting goals related to the skill>, the importance of having a goal for one's play was demonstrated. Dweck (1986) classifies achievement goals into two main categories: a performance goal and a learning goal. A performance goal is a goal that emphasizes relative advantage over others in comparison with others. A learning goal is a goal that emphasizes the development of one's abilities through learning and understanding. In the study of the relationship between goal orientation and intrinsic motivation in tennis competition, it was shown that task-oriented undergraduate tennis players exhibited high levels of intrinsic motivation (Duda et al., 1995).

Next, in the subcategory of <having a reason>, the importance of having a clear reason to win, such as “for my teammates” or “for higher education” was demonstrated. Such motivations are considered extrinsic motivations. Generally, extrinsic motivation is weaker than intrinsic motivation, such as “quitting the activity when the external reward is lost” or “giving up when suffering.” However, self-determination theory (Ryan & Deci, 2002), which goes beyond the intrinsic/extrinsic framework and takes a more detailed view of motivation, distinguishes four types of extrinsic motivation based on the degree of autonomy: external adjustment, introjected adjustment, identified adjustment, and integrated adjustment. The identified adjustment and integrated adjustment are motivations for a high degree of autonomy, personal value, and importance to learning, and positive engagement. Subject F, who stated that “going on to higher education,” also looked back on those days and said, “I would spend all my free time playing tennis. When I didn't have anyone to practice with, I practiced serving by myself. I guess I was able to push myself harder” (Subject F).

Next, in the subcategory of <observing games>, the importance of watching target competitions and matches in person was demonstrated. Although we could not find any direct previous studies on the effects of watching target tournaments and games, we will discuss them by assuming that “admiration” and “inferiority” are the emotions that arise when watching target tournaments.

In the field of psychology, admiration has been examined under the concept of “identification.” And in the field of sports, Uechi (2011) examined the relationship between identification and motivation. It is shown that there is a significant relationship between the intensity of identification and autonomous motivation for exercise and sports. As for feelings of “inferiority,” Yamada & Mizuno (2011) showed that it does not necessarily have an inhibitory effect on motivation, but in some cases, they can increase motivation and stimulate efforts to overcome them.

Continuous growth

To achieve a “breakthrough” in tennis, one must continue to improve their competitiveness. However, the process of athletic performance improvement is not linear, and there is a phenomenon called “plateaus,” in which skills do not improve even after continued practice, and “slumps,” in which performance declines and athletic performance stagnates. Kudo et al. (2011) showed that plateaus and slumps inevitably occur in the process of skill acquisition and improvement. Indeed, even the current world number one in men’s tennis, Novak Djokovic, has spoken about experiencing slumps (Davis, 2017). Overcoming these obstacles in the process of maturity and continuing to grow is a major challenge for the athlete.

The subjects were attempting to continuously improve their performance in various ways. First, in the subcategory of <increasing practice>, the importance of lots of practice to improve technique was demonstrated. Chase & Simon (1973) found that it takes more than ten years of practice to achieve outstanding performance. And similar results have been shown in tennis as well (Monsaas, 1985).

Next, in the subcategory of <practicing with better players>, the importance of creating practice opportunities with higher-level players was demonstrated. Ericsson et al. (1993) showed that it is important to challenge oneself with high goals that are slightly beyond one’s current level, rather than simply repeating technical exercises, to achieve a deliberate practice. To achieve that, tennis clubs need to implement appropriate governance to ensure that players have a fair opportunity to practice with higher-level players (Hotta & Yamamoto, 2022).

Next, in the subcategory of <recognizing own strengths and weaknesses>, the importance of having a proper self-awareness of one’s strengths and weaknesses was demonstrated. Cowden (2017) supports a positive relationship between self-awareness and mental toughness in tennis players, emphasizing the importance of self-awareness.

Next, in the subcategory of <trying new ideas>, the importance of adopting new practice methods and experimenting with new skills was demonstrated. Looking at previous studies examining the effects of standard practice, in which repetitions are performed in a drill-type format, and variable practice, in which a variety of practices are performed, most results support the effectiveness of variable practice (e.g., Kerr & Booth, 1978; Williams & Rodney, 1978; Magil & Reeve,

1978). In tennis as well, Douvis (2015) has demonstrated the effectiveness of variable practice in mastering the forehand drive. Thus, it is important not only to repeat the same practice methods but also to keep changing them.

Next, in the subcategory of <escaping from mistaken beliefs>, the importance of breaking free from false beliefs formed by accumulated knowledge and experience was demonstrated. Such a process has some overlap with conceptual change theory (Chi, 1992). When people learn, they use the structure of existing knowledge to understand and enrich their knowledge. In the subject’s case, the subject said, “In practice, we often do offensive practice, such as chance ball practice and volleying practice. In addition, when I watch professional matches, points won by winners tend to be the focus, and that image has stuck in my mind” (Subject E). As stated above, it is considered that the subject had formed the false knowledge that “Offense is the only strategy” (Subject E) from daily practice and experience of watching professional players’ matches. However, most points in a tennis match end in errors. It is conceivable that we can move on from false assumptions to the correct perception that “Playing aggressively is not the only strategy, since it is the same as an opponent making an error or me outplaying them” (Subject E).

High performance during games

To achieve a “breakthrough” in tennis, it is important to improve one’s skills through practice, but it is equally important to be able to demonstrate one’s ability under the pressure of competition. The subject said, “When I was a child, I was the type of person who couldn’t show my ability in a match. I have been playing tennis since I was a child, so my technique is good. But something is missing, I can’t show my strength” (Subject H).

Baumeister (1984) called pressure a factor or a combination of factors that increase the importance of high performance in a particular situation, and he called the phenomenon in which performance decreases due to “Choking.” Various studies have been conducted on choking. Kanamoto et al. (2002) reported that more than 90% of athletes felt pressure during games. Thus, pressure and agitation are factors that prevent athletes from demonstrating their abilities in-game, and overcoming these factors may play an important role in achieving a “breakthrough” in tennis.

The subjects were trying to cope with pressure and choking in various ways and to demonstrate their abilities in games. First, in the subcategory of <match emulation>, the importance of experiencing the same or greater tension in practice as in a game was demonstrated. Oudejans & Pijpers (2010) investigated dart-throwing practices in two groups: one in a “high place with fall hazard” and the other in a “safe low place.” In the subsequent performance, the group that had practiced at a high place with fall hazards performed better. It has also been shown that simply imagining tense situations during practice can lead to higher performance under pressure than practicing without doing anything.

Next, in the subcategory of <game repetition>, the importance of participating in many tournaments and becoming accustomed to the game environment was demonstrated. Kanamoto & Yokozawa (2003), which analyzed the factor structure of choking in sports situations, extracted “unfamiliarity of the game situation” as one of the factors. This indicates that “the atmosphere was different from usual” and “it was a situation that we do not experience every day.”

Frequent participation in matches may be an effective way to cope with such “unfamiliarity of the game situation.”

Next, in the subcategory of <focus on what should be done>, the importance of focusing on the task at hand in a game situation was demonstrated. Hodge and Smith (2014) investigated the target method of choking in the New Zealand national rugby team. As a result, “involved a process/task focus” is mentioned. Thus, it is considered important to concentrate on tasks that can be controlled by oneself, not on the performance of the opponent or the outcome of the match, which are beyond one’s control.

Next, in the subcategory of <taking it easy>, the importance of playing in a relaxed state in achieving high performance in the game was demonstrated. Arimitsu (2002) and Higuchi et al. (2007) extracted coping strategies for choking and found that “easy going tolerance,” was one of the factors in both cases, indicating that it is effective in reducing choking.

CONCLUSION

The purpose of this study was to reveal hypothetical findings on the factor that enable “breakthroughs” in tennis. Semi-structured interviews were conducted with eight Japanese college tennis players who had experienced a “breakthrough” in the past, and who had a record of being in the top 8 or above in national championships. The interview content was transcribed, and qualitative analysis was conducted. As a result, the following three hypothetical findings were revealed: “maintaining high motivation,” “continuous growth,” and “high performance during games” are important for enabling “breakthroughs” in tennis.

This suggests that to achieve a “breakthrough,” in addition to improving competitive performance, it would be necessary for them to carry out their daily practice and training with strong motivation and to fully demonstrate their competitive ability in competitions. There have been no studies dealing with “breakthroughs” in the field of sports in the past, and those hypothetical findings will be useful for athletes who are aiming for “breakthroughs” and for coaches that support them.

LIMITATIONS AND FUTURE WORK

Since this study was conducted on eight college tennis players who had experienced a “breakthrough” in the past, and who had a record of 8 or better in a national championship, more research needs to be conducted at different levels of competition and different ages to generalize the results. In addition, although this study was conducted only for tennis, it is possible that differences and commonalities among the sports can be found by expanding the scope of the study to other sports in the future.

Since the hypothetical findings revealed in this study are based on interviews and considerations concerning previous studies, we have not been able to verify the causal relationship. Therefore, prospective studies to verify causal relationships and quantitative studies to test hypotheses should be conducted in the future.

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CONFLICT OF INTEREST AND FUNDING

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