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**Coach Created Motivational Climate in
Professional Tennis from the Coaches'
Perspective:
A qualitative study**

Master's thesis in Sport Science
Department of Sport & Social Sciences
Norwegian School of Sport Sciences, 2021

Acknowledgements

To my supervisors Frank Abrahamsen and Peter Eriksson, to whom I never could have asked for a better team on this project and for that I am forever grateful. You have both made it a challenging year full of fun and excitement. Thank you Frank for bringing your expertise when it comes to academics and sport psychology, especially for your ownership as my supervisor during this project. Thank you Peter for being my tennis mentor and for all of our discussions and reflections during these four years, without you I would not be where I am today and I will never forget that. I would also like to express my sincerest gratitude to Norwegian School of Sport Sciences that chose to accept me as a student back in 2017 which made it possible for me to continue my academic journey after starting in Sweden as a young tennis coach and student.

To Sarah, thank you for creating the best motivational climate at home, and for accepting me both at my best and worst during this last year. To my mother and father, thank you for always encouraging me to chase my dreams and sticking to my path. To Pelle, and Holmenkollen Tennis Club thank you for accepting me to the club and Norway in 2014, and for giving me the best working environment. Last but not least thanks to myself for sticking to my game plan, never letting anything stand in my path toward my dreams, and also for taking care of myself physically and mentally this last challenging year.

Erik Gustav Thorelli

Norwegian School of Sport Sciences, May 2021

Summary

This study explores professional Nordic tennis coaches' perceptions of the motivational climate they create to identify potential commonalities in their perceptions and differences in the perceived motivational climate. Hopefully, the results may inform coaches, players, sport directors, national federations, parents, and sport psychology consultants on how to build a sound motivational climate in professional tennis. Based on this intent, we answer the following research question: "How do professional Nordic tennis coaches on the ATP and WTA tours perceive the motivational climate created by themselves?" We explored eight elite tennis coaches' perceptions through semi-structured interviews. Due to the COVID-19 pandemic, seven out of eight interviews were conducted through Zoom meetings, and one was safely conducted face-to-face. We analyzed the data using a six-stage thematic analysis recommended by Braun and Clarke. Our findings show that the coach-created motivational climate in professional tennis was perceived by the coaches to be highly ego-involving; however, to handle this correctly, you should try to be mastery-involving as a coach and also as a player. According to the coaches interviewed, it is crucial to be your own coach as a player and to take massive ownership, focusing on personal development and executing maximum effort consistently. The results will eventually come, being the only thing that counts in professional tennis.

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1. Introduction

Harwood (2016) describes the link between achievement goal theory and tennis as a result-oriented sport that externally rewards performance outcomes instead of personal development. It lacks individualized feedback, and the challenge is for players to find other sources of information to build and keep their perceptions of competence, in opposition to only dependence on normative opponent comparisons. Motivational climate literature in the sport domain has mainly focused on team sports (Harwood et., 2015). This is basically due to original scales being developed from team sport settings together with items relevant to sampled athletes being in a team situation, and the motivational climate in a competition context for a tennis player, swimmer, or a track and field athlete is principally understudied (Harwood et al., 2019). Thus, investigations of the climate in these sports often occur before or after the competition, as the coach normally sits on the stands. The perceived motivational climate is based on environmental cues in practices, competitions, and at home (Duda, 2001). According to Harwood and Biddle (2002), tennis is not only highly ego-involving—in that it evaluates success based on performance outcomes, such as a win or a loss—but is also highly non-mastery-involving, as it supplies objective individual performance feedback to the player. Regarding match outcomes, tennis lacks specific information about how the player performed relative to themselves. This opposes other individual sports, such as in track and field or swimming, where you get clear information about your own personal performance despite the position you finish in the race. Tennis with its ego-involving nature has a knock-on effect for coaches, parents, and peers, who tend to judge a player’s performance on result-oriented

outcomes, neglecting the performance itself. In tennis, the motivational climate is described as the training and competition goals that the players perceive are structured by coaches, parents, and peers.

Regarding internal and external motivational factors in tennis, Kincses et al. (2021) found that considering the heavy training loads and efforts put in during a 10–15 year period, the prize money that can be won in professional tennis seems to pay off, and female tennis players from post-socialist countries can also set up their lives after tennis with their professional activities. Tennis, compared with other sports, is a game of the mind, as it is both complicated and uncertain. A tennis player needs to overcome various potential internal and external distractions to achieve optimal performance. During a tennis match, a “black out” may occur and this would make the player commit errors that would never happen if the “black out” never occurred (Esposito et al., 2020). Tennis is a mental game, and a tennis match requires players to make around 800 decisions (Crespo et al., 2006), and to achieve this, the players must be motivated to play and also perform their best. Several factors may affect a player’s mental performance, such as bad calls, behavior from the crowd, and bad weather. Throughout a match, players need to stay positive, stay in the “here and now,” learn from their mistakes, maintain their self-confidence, and visualize their success (Crespo et al., 2006). Gallwey (2015) discussed the mental game of tennis and common complaints players have: playing better during practice than in an actual match; knowing exactly what is wrong but could not break the habit in a stroke; trying to do a stroke correctly, but it ends in failure; letting one of the focus points dominate their concentration, making them miss all other vital

focus points; getting closer to match point and letting the nerves get to them; and being your own worst enemy, which usually results in beating yourself.

The theoretical standpoint for this study is from an achievement goal theory perspective, emphasizing the coach-created motivational climate in tennis. This follows the mental game of tennis, as previous findings on the motivational climate describe the tennis environment as being very mentally challenging (Harwood, 2016; Crespo et al., 2006). Hence, this study explores professional Nordic tennis coaches' perceptions of the motivational climate, which they create. We chose a qualitative research method with a semi-structured interview guide to listen to and explore the coaches' perceptions. This method allows the coaches to tell their stories, and the interviewer can get insight into their experiences on the chosen theme.

2. Theoretical Background

2.1 Achievement Goal Theory

In 1977, John Nicholls presented some of his new ideas for future research, as we today would know these concepts as basics to achievement goal theory: mastery (or task) and ego involvement. His ideas of equality of motivation through mastery involvement became a publication in the *American Psychologist* (Nicholls, 1979). To understand motivation, we need to understand the psychological constructs that energize, direct, and regulate achievement behavior (Roberts et al., 2007). Achievement goal theory is a social-cognitive theory that considers the individual as an intentional, rational, goal-directed organism, and

that achievement goals control achievement beliefs and guide, following decision-making and behavior in achievement contexts. Arguably, to understand individuals' motivation, the function and meaning of the achievement behavior to a person must be considered, and the goal of action must be understood. People give meaning to their achievement behavior by the goals they take on, and the goals reflect the purposes of achievement striving. Once the achievement goal is adopted, it determines the integrated pattern of beliefs that vitalize approach and avoid strategies, the varied engagement levels, and the differing responses to achievement outcomes (Roberts, 2012). Goals are fundamentally what give an activity meaning or purpose (Kaplan & Maehr, 2007; Maehr & Nicholls, 1980). Alternatively, achievement goal theory identifies the goals (purposes or reasons) that govern achievement-related behaviors. Therefore, by recognizing the importance of the meaning of behavior, it becomes clear that there may be several goals of action and not one (Maehr & Braskamp, 1986). Consequently, an individual's investment in personal assets, such as effort, talent, and time in an activity, depends on their achievement goal (Roberts, 2012). Thus, the overall goal of action in achievement goal theory becomes the conceptual energizing force that must be desired to develop and demonstrate competence and to avoid demonstrating incompetence in an achievement context (Nicholls, 1984). The demonstration or development of competence is the electrifying construct of the motivational processes of achievement goal theory, yet competence has multifaceted meaning. One of Nicholl's (1984) conceptual contributions was the claim that multiple conceptions of ability exist and that achievement goals and behavior may differ depending on the conception of ability detained by the person. Nicholls also argued that at least two conceptions of ability differ in achievement contexts, specifically an

undifferentiated concept of ability, in which ability efforts are not distinguished by a person, either because they cannot differentiate, like with young children, or because the person chooses not to differentiate, and a differentiated concept of ability where ability and effort are differentiated (Nicholls, 1984, 1989). Under these different conceptions of ability, related consequences emerge for the experience of interest or enjoyment in a task performance.

Concurrently, severe accomplishment may be insufficient for establishing high capacity because accomplishing a difficult task does not mean acquisition of high capacity. If others find the task easier than we do, our great effort to complete the task would indicate low ability for us instead. When we seek to establish high capacity, we must calculate whether our severe accomplishment will be adequate to the purpose. This means that our strivings will tend to be experienced as the means and not as the end itself. However, if our goal is defined regarding a less differentiated conception of ability to learn, accomplish, or to understand something new that we did not know for sure we could do, then the goal is to be competent, which means that by doing exactly these things—understanding, accomplishing, or learning—we achieve a sense of competence. Hence, the activity will be experienced more as end itself and will be more intrinsically satisfying (Nicholls, 1989). Nicholls (1989) labeled the state where the less differentiated conception describes the goal as mastery-involvement, and the other state where the differentiated conception describes it as ego involvement. Ego-involvement implies the desire to enhance the self by establishing one's superiority compared to others. This is the case even when you might not compete with any others or not even imagining any others. One of the primary differences between being mastery-involved and

ego-involved as an athlete is the way they define and assess competence and success. Mastery-involved athletes tend to construe competence based on self-referenced criteria and are fundamentally concerned with mastery of the task, with that being, said mastery-involved athletes are likelier to develop perceived competence more than ego-involved athletes over time (Elliot & Dweck, 1988). In contrast, ego-involved athletes feel competent when they compare themselves favorably with others accordingly and are less likely to maintain high perceived relative ability or competence, mainly those who are already questioning their ability (Dweck, 1986).

Regarding self-evaluation, when you ask someone about how they perceive it to have started with a new sport, they could answer that they find it pleasant, as they just mastered some new skills; however, if you would have asked them how good they are at this new sport, they would not have answered it in the same way (Nicholls, 1989). The information that someone is pleased that they have learned something tells us little or nothing about how able they are (Jagacinski & Nicholls, 1984). When we explicitly evaluate our own or another's ability, we must depend on the most differentiated conception, and that ability is capacity. This means that we must ensure that we are evaluating ability and not effort or task difficulty or ease. A typical situation that raises concerns about the acceptability of our ability is a test. The more one single person values the skill being tested, the more these concerns about competence will probably be (Nicholls, 1989).

It is assumed that people are predisposed to act in an ego-or mastery-involved manner, and these predispositions are labeled achievement goal orientations. Personal differences in

the disposition to be either mastery-involved or ego-involved may be due to socialization via mastery-or ego-involving contexts, either at home or in significant achievement environments such as classrooms or physical activities (Nicholls, 1989; Roberts et al., 1997). Goal orientations should not be viewed as “traits” or based on needs. They are instead cognitive schemas that are dynamic and subject to change, as information regarding the person’s performance on the task is processed; however, orientations also have some stability over time (Duda & Whitehead, 1998; Roberts et al., 1998).

Nicholls (1989) argued that to rate personal achievement goals, people should be asked regarding the criteria that make them feel successful in a given situation rather than note their own definition of competence. Regarding goal orientations, the most important attribute is that they are orthogonal, meaning that both mastery and ego goal orientations are independent, and that an individual can be high or low in either or both orientations simultaneously. Elite athletes are likely to be high in both mastery and ego orientations, or high ego and low or moderate mastery (Pensgaard & Roberts, 2000). Athletes mostly at risk are those that are high ego and low mastery. These individuals are likeliest to manifest maladaptive motivation, drop out of participation, and might even be the ones likeliest to burn out when they believe they cannot demonstrate competence (Lemyre et al., 2007). Additionally, the low ego and low mastery athletes are the least motivated, and they might not even commit to achievement tasks (Roberts, 2012).

Motivational Climate

One of the most powerful aspects of achievement goal theory is that it incorporates the individual difference variables of mastery and ego orientations, but it also includes the situational determinants of mastery and ego involvement, and the situation plays a crucial role in the motivation process (Ames 1992a; Nicholls 1984, 1989). Achievement goal theory (Ames, 1992a; Dweck, 1999; Nicholls, 1989) aims to understand the function and the meaning of goal-directed actions, which are based on how participants define ability and how they judge whether they have demonstrated competence. Considering that there are various variables are incorporated into achievement goal theory, the motivational climate, which is created within adult-controlled achievement settings, has gotten particularly attention. Achievement goal theory focuses on environmental factors that foster mastery or ego involvement. This has influenced how relevant adults structure the situation and define success. In a mastery climate, teachers, coaches, and parents define success based on self-improvement, task mastery, giving maximum effort, and dedication. In a mastery climate, students and athletes tend to adopt adaptive achievement strategies, such as selecting challenging tasks, giving maximum effort, persisting when setbacks occur, and taking pride in personal improvement. In both sport and academic settings, several positive outcomes have been linked to a mastery-involving motivational climate, including a stronger mastery orientation for the participants, greater enjoyment and satisfaction, stronger intrinsic and self-determination motivation, group cohesion, and lower levels of performance anxiety. In an ego-involving climate (or performance climate), it promotes social comparison as a basis for

successful judgments and also tends to foster an ego-achievement orientation. When coaches create an ego climate, they tend to give differential attention and positive reinforcement to the athletes who are most competent and focusing on winning. Rivalry among teammates in the group might occur when the coach openly compares them to one another. Poor performance or mistakes are often punished with criticism, teaching athletes that mistakes need to be avoided, which builds a fear of failure. Another unfortunate outcome associated with an ego climate is winning at all costs, even if rule-breaking is required (Ames, 1992a, 1992b).

Research regarding interventions within AGT has mainly focused on manipulating the motivational climate through Ames' (1992b) application of Epstein's (1989) TARGET (i.e., task, authority, recognition, evaluation, and time) teaching principles in an educational setting. Employing each TARGET principle helps athletes and coaches to create a mastery-or ego-involving climate. Especially, it offers mastery-or ego-involving behavioral choices to coaches and teachers by the style in which they organize tasks: the degree to which authority and power in decision-making is being shared with children; how kids are grouped, evaluated, and rewarded in a self-referent or normative manner; and also the period set out for activity-related achievements.

Coaches' roles have received numerous attention in studies covering the motivational climate. While Rottensteiner et al. (2015) concluded in their study that coaches should focus on building a mastery-involving climate for young athletes to keep them as participants in the sport, they claimed that coaches can use some elements from an ego-involving climate. To succeed with that, you need a positive coach-athlete relationship together with ingredients

from a mastery climate. Following the perceptions of the motivational climate, Møllerløgken et al. (2017) compared athletes' and coaches' perceptions of the motivational climate, and they found that the perceptions differed. The coaches perceived the motivational climate in their teams to be more mastery-oriented than ego-oriented compared with the players' perceptions. They also concluded that coach education should focus on encouraging coaches to build a mastery climate.

Motivational Climate in Tennis

Harwood (2016) was introduced to the first edition of *Motivation in Sport and Exercise* (Roberts, 1992) and the principles of AGT, and it resonated with his tennis playing experiences for various reasons. Tennis is a result-oriented sport that externally rewards performance outcomes instead of personal development, and it also lacks individualized feedback. In a zero-sum game such as tennis, the challenge for players is to find other sources of information to build and keep their perceptions of competence, in opposition only depending on normative opponent comparisons. The attention to perceptions of players' ability is stressed due to being 'alone yet never alone' on the tennis court. Tennis is an individual sport in which you have a personal responsibility for everything, managing your own line calls, confronting your opponent's calls, being your own coach, handling setbacks, time management, tackling fatigue and close out matches. Concurrently, there is no outside help or assistance; however, there are outside expectations and judgments in a player's mind. This could arise from a physically present audience, such as parents, coaches, or other players, or from more distant significant others, such as "Did you win your match?"

(Harwood, 2016). With ability-based evaluations normally around aspects such as match outcomes, scorelines, winners, and unforced errors, tennis is creating an inherently ego-involving motivational climate (Ames, 1992b).

Mastery vs. Ego Climate

Regarding the motivational climate in tennis, Duda (2001) mentioned that recognition for players in different motivational climates differ. In a mastery-involving climate, players all feel that they possess a valuable role, but in an ego-involving climate, they perceive that recognition is only for talented players. Rewards together with perception of development also differ in the two motivational climates in tennis, as it is perceived that a mastery-involving climate reinforces both effort and improvement, and this goes simultaneously with players focusing on the intrinsic reward of learning together with a feeling of increased improvement. However, it is being perceived that an ego-involving climate reinforces the emphasis on results and that this makes the players feel reduced improvement (Balaguer et al., 1997, 1999; Kavussanu & Roberts, 1996). Interestingly, tennis players feel valued and inspired and appreciate their coach in a mastery-involving climate, while in an ego-involving climate, it creates rivalry between the players in the team (Balaguer et al., 1997, 1999). Mistakes and the learning process are also covered, and mistakes are interpreted as part of the learning process in a mastery-involving climate as players focus more on the task; conversely, mistakes are appraised as being part of punishment in an ego-involving climate (Balaguer et al., 1997, 1999).

While a mastery-involving climate in tennis creates a stronger work ethic, with players trying their best with stronger perceived competence, an ego climate creates a focus on outperforming others together with achieving without personal effort (Cervelló et al., 2002; Kavussanu & Roberts, 1996). Other differences in the two motivational climates have been found—a mastery climate seems to foster player satisfaction, enjoyment, and effort, together with greater satisfaction with their coach—while an ego climate seems to reduce enjoyment for players, alongside lower levels of satisfaction with their coach (Balaguer et al., 1997, 1999; Kavussanu & Roberts, 1996; Yi-Hsu et al., 2005). In the issue of tension, anxiety, and pressure, it also differs in the motivational climates of tennis, as players tend to experience higher pressure and both somatic and cognitive anxiety in an ego climate, while a mastery climate is likely to reduce feelings of anxiety for the players (Cervelló et al., 2002; Hatzigeorgiadis & Biddle, 1999; Kavussanu & Roberts, 1996; Yoo, 2003).

We find overwhelmingly support favoring a mastery-involving climate in tennis with positive perceptions of personal development for players and satisfaction with their performance and coach (Duda, 2001), and tennis players who perceived that their coaches created a mastery climate because of the impression that they had been improving in their tactics, technique, and psychological factors in their tennis game (Balaguer et al., 1999). In a study with 226 Greek national tennis players, it was concluded that mastery climates should be endorsed, as it supports the use of approach coping behaviors in stressful situations during tennis competition (Theodosiou et al., 2018), and in another tennis study, it was also concluded that it is more suitable to create a mastery-involving climate (Cervelló et al., 2007).

Adding to this, Smith et al. (2007) also suggested that building a positive mastery-oriented climate could be an ideal approach for players' satisfaction, thereby reducing anxiety and making talent development easier.

Practical Applications

At the more recreational level in tennis, a mastery-involving motivational climate is important with a focus on enjoyment and motivation for the players. At competitive tennis, while an ego-involving motivational climate might dominate, it is recommended that coaches try to be mastery involved in their communications with their players before and after tournaments (Crespo et al., 2006). Concurrently, it is important to accept that ego-involving climates might become more common as "stakes" escalate, and players' appraisals of these climates create more anxiety and pressure (Kavussanu & Roberts, 1996). Regarding this, it is recommended that tennis coaches should, where possible, produce high mastery-involving settings (Duda, 2001). For coaches to do this, Crespo et al. (2006) recommended coaches to reflect on how their players define success, how they as coaches explain success and defeat to the players, how they react when their players perform unsuccessfully or make mistakes, how meaningful extrinsic factors are for the players' practice, and what the tennis players build their self-esteem on.

More practical applications for coaches to create more mastery-involving climates included applying optimal challenges to fit the level of skill and drill to players' abilities, and this can be done by adjusting both drills and equipment; working to stimulate training

sessions by having good variation in drills and more team tasks than competitive tasks to engage players to build relationships with each other; and emphasizing effort, learning, and personal development by keeping everyone active focusing on this, and also trying to avoid giving feedback and instructing the players all the time. It is also suggested to recognize players' shortcomings and personal development, and this process helps the players to set their own realistic measurable short-term performance goals, which are based on their own individual development and progression and effort instead of results and skills. Another interesting recommendation is to engage players in decision-making and leadership roles by letting them have some say regarding designing drills during training. Lastly, it is important to use different and dynamic grouping setups and focus on motivating the players to self-evaluate themselves and wait for them to ask for feedback (Crespo et al., 2006).

To create a mastery motivational climate in tennis, there are strategies to achieve that using TARGET (Harwood & Biddle, 2002: 64): Task: Coaching activities have various individual challenging activities, so let the players set process rather than outcome goals. Authority: How the coach interacts with the players. Let the players have a "say" in matters such as leadership roles, decisions, and trainings. Recognition: What is rewarded? Recognize personal progress and improvements in the players. Grouping: Be flexible over groupings in practice; avoid always having the most or least skilled players together. Evaluation: Use of feedback. Evaluation based on improvement and effort; allow players to evaluate themselves and be evaluated by others; avoid public evaluation. Time: Scheduling. Allow time for practice and improvement, and help players with time management to encourage practice.

A practical application concerning tennis and the motivational climate is that it seems that some parents predict a more ego-involving climate in tennis, focusing on winning and being better than other players, compared to what the young tennis players hold by themselves. Stressing the concept that success is not just winning, but reinforce good effort and not only high ability, alongside encouraging parents to have realistic goals for their children, might be a good way to highlight a more mastery-involving motivational climate in tennis (Crespo et al., 2006).

3. Contextual Background

3.1 Characteristics of the Mental Game

Tennis separates itself as a sport unlike other sports because you lack substitutes, no chance for time out during the match, and no on-court coaching under, and it is very rare that you get an extra chance to compete. In tennis, players need to adapt their game to different environments, altitudes, competition conditions, and many opponents (Crespo & Reid, 2007). Mental pressure is also among the main causes of discontinuation in tennis, especially for young players (Aryanto & Larasati, 2020).

Soares and Harwood (2017) investigated the psychology of turning points in tennis via nine interviews with elite players. A positive turning point with a direct connection to the scoring system was going for a risky shot and winning the point when about to lose the match. A negative turning point situation not related to the score could be a rain delay. To maintain positive turning points, routines in between points and sticking with the same tactics were

mentioned as coping strategies. To handle negative turning points, several strategies came up: try to get back to the routines, e.g., go to the towel, go slower to mess up the rhythm for the opponent, go to the bathroom, and ask for the trainer. Another example of how to turn a negative turning point situation that happens more frequently was to go to the bathroom concurrently with the opponent and ensure the other one is returning to court first. Regarding practical implications, there is a need to prepare for the match, as there is probably potential for turning points in every match. The authors highlighted the need, from a psychological perspective, to prepare for a match with mental skills outside competition. Often, breathing exercises and strategizing how to handle a certain situation when it occurs at a match are good examples to emulate.

Mental Skills

Twenty-seven studies were reviewed regarding mental training programs in racket sports, and all studies showed positive outcomes with complete or parts of the aimed goals with the training programs achieved (Cece et al., 2020). Gould et al. (1999) conducted a survey with junior tennis coaches regarding their opinions and knowledge about mental skills training (MST) and found that the mental skills thought to be the most difficult to teach were reframing pressure, crisis management, self-confidence, and emotional control. Roadblocks to MST in tennis included lack of time, lack of player interest, hard to evaluate effects on MST in tennis, and lack of models and examples of actual coaches teaching MST. Coaches expressed the need for practical MST exercises that could be taught in 10–15 minutes, together with strategies to engage players in MST.

Self-confidence

With tennis being a result-oriented sport, emphasizing its competitive format and the need to repeat efforts, although you underperform or make errors, self-confidence has been identified as an important factor in tennis (Covassin & Pero, 2004). Regarding tennis player's self-confidence, Daw and Burton (1994) incorporated an intervention focusing on goal setting, imagery, and arousal regulation for tennis players at college and found positive outcomes in better self-confidence and reduced amounts of double faults. Yoo and Calderon (2018) conducted a mental training counseling intervention that comprised journal writing (goal setting), and the results showed performance improvement and better self-confidence for the tennis players.

Self-Talk and Other Mental Skills

Tennis is also a sport in which you are alone tackling internal and external distractions on the court. Dohme et al. (2019) found improvement of elite tennis player's regulation and emotional control alongside the use of psychological skills after a targeted 2-month intervention on self-talk, imagery, and performance routines.

Caserta et al. (2007) investigated mental training in tennis executing an intervention through perceptual cognitive skills and decision-making for senior players and found that the players improved in decision-making in performance situations as well as speed and response. In a case study on the ATP tour, Mathers (2017) found that players, through imagery, pre-point routines, and positive self-statements, reported increased performance and outcomes (key mental skills).

Concerning players' self-talk in tennis, Thibodeaux and Winsler (2018) conducted a study with 28 young tennis players to investigate, through observation and self-reports, what the players say to themselves on court. They found that, through observation and the reports, numerous self-talks comprised positive, negative, motivational, and instructional self-talks. The observed self-talk was mainly negative and rarely instructional. The authors argued that self-reports for young tennis players need to be confirmed by observation. To explore the relationship between self-talks and emotions, Fritsch et al. (2020) recorded 20 competitive tennis matches, and the results showed that most of the players often talk to themselves, and the self-talks are also related to the experienced emotion and the emotion shown to the outside. We also find a new category of self-talk in competitive tennis in the study by Boudreault et al. (2018), named performance pressure, and it comprises phrases such as "I should," "I have," "I am supposed," and "I have got," and this is used to focus on doing well. This self-talk gives us an understanding of the players' rules and standards.

Mental Training and Stroke Development

Dana and Gozalzadeh (2017) conducted a six-week imagery intervention on performance accuracy in serves and groundstrokes for teenage boys and found performance development in the accuracy of service and groundstrokes. Regarding this, we found important findings from the intervention study by Guillot et al. (2013) that mental imagery training with external focus increased service performance in match play. In another study to develop the service technique for tennis players, Atienza et al. (1998) conducted an intervention focusing on video modeling and imagery, and they found that the players

improved serves in accuracy, speed, and technique. A study was also conducted concentrating on trying to improve the services and receiving skills for competitive players through imagery, positive feedback, and technical training, and the results showed improvement in serves but not in receiving skills (Coelho et al., 2007).

Tennis Parents

It is a long journey to the top in tennis. Especially in the junior years, parents have a crucial role, and it is not only a mental game for the players but for their parents also. In a study by Harwood and Knight (2009), British tennis parents answered survey questions focusing on the internal and external demands experienced by having a child compete in tennis. It was reported that parents experienced various competitive stressors before, under, and during competition involving their child, opponents, other parents, and officials. Organizational stressors were also mentioned that went simultaneously with their financial, personal, and social investments in their support roles as tennis parents. In addition, parents of tennis players have reported feeling ashamed when attending tennis tournaments where their children underperform (Harwood & Knight, 2009; Wiersma & Fifer, 2008). As stated by Lauer et al. (2010a), "In tennis, it is a commonly accepted belief that a child will only become elite if one of the parents is highly involved" (p. 70). However, parental involvement seemed to change over time, and tennis player's parents mostly reduced their engagement when their children entered the elite years with a master tennis coach while traveling to compete (Lauer et al., 2010a). Dohme et al. (2020) explored which psychological skills tennis parents considered important for their children and to understand the parental behaviors set up to

support these psychological skills. It showed that tennis parents were skeptical toward the development of psychological skills for various reasons, and they reported behaviors, such as talking to their children about the psychological skills, trying to set up learning opportunities, although these behaviors tended to foster an ego climate.

Conversely, the players' perspective on having parents present during tennis tournaments shows that it affects the players' emotional experience. Some players reported that the feeling of being nervous at matches with their parents present got them intensely frustrated during the matches (Lauer et al., 2010b). Regarding emotions experienced during tennis events for both parents and players, Boudreault et al. (2019) investigated the automatic self-talk of elite junior players and their parent's self-talk regarding the emotions experienced during important matches. The automatic self-talk of both the players and the parents was linked to their own experiences in important happenings. Considering that this experience was subjective and related to the emotions felt during tennis matches reveals the close link between self-talk and emotions in tennis. Harwood and Swain (2002) explored the effects of a season-long player, parents, and coach intervention program on goal involvement responses, self-regulation, competition cognitions, and goal orientations of three junior tennis players. The results showed that increasing mastery involvement and self-regulation while "suppressing" social approval goals facilitated positive efficacy expectations together with more challenging and less threatening perceptions of competition.

4. Research Question

This study explores professional Nordic tennis coaches' perceptions of the coach-created motivational climate to determine whether there are some common aspects in the perceptions of the coaches or any differences in the way they perceive their motivational climates. Hopefully, the results from this study can give coaches, players, sport directors, national federations, parents, and sport psychology consultants valuable information concerning Nordic coaches' perceptions of the motivational climate in professional tennis and how to maximize the potential in building the best possible motivational climates. Hence, we aim to answer the following research question:

- How do professional Nordic tennis coaches on the ATP and WTA tours perceive the motivational climate they create?

5. Methodology

5.1 Research Design

This study aimed to interview professional Nordic tennis coaches regarding their perceptions on the coach-created motivational climate. We conducted this using a qualitative research method, and this study used words as data instead of numbers, collected and analyzed in varying ways (Braun & Clark, 2013). We chose interview as our type of qualitative design, as we aimed to gain knowledge about the participants' experiences and perceptions as coaches, and by interviewing them, we can listen to how they perceive the

motivational climate they create (Thagaard, 2018). The most common qualitative research interview is a semi-structured interview guide, which was used in this study. The questions for the interviews were decided before the interviews, but we decided on the order of the themes during the interviews. This approach suited this research because it allowed the interviewer to listen to the participants' stories and concurrently ensure that important themes for the research question were covered (Thagaard, 2018).

5.2 Participants

The participants comprised six male and two female coaches. While qualitative research tends to use smaller samples than quantitative research, there are no rules for sample size in qualitative inquiry (Patton, 2002: 244). We applied "saturation," a concept developed from grounded theory (Bowen, 2008). Saturation usually refers to the point when additional data fail to generate new information (Morse, 1995; Sandelowski, 1995), and we reached saturation after the eighth interview. In qualitative research, the typical approach to sampling is purposive to generate insight and in-depth understanding (Patton, 2002: 230) of the topic you are interested in.

Based on Braun and Clarke's (2013) emphasis on developing inclusion and exclusion criteria for the sample, we decided to include professional Nordic tennis coaches that have coached the top 100 players on the ATP tour (The Association of Tennis Professionals (ATP) or WTA tour (Women's Tennis Association). We chose to include Nordic coaches with professional players because there are many Nordic coaches with great success on the ATP and WTA tours, and we wanted to explore their perceptions of the coach-created motivational

climate they have created to know if there are any similarities or differences in the way the coaches perceive their motivational climates.

A common background for the coaches in this study is that they all had personal career experience as players and then started coaching. Three of the coaches reached as high as the top 100 on the professional circuit as players themselves, while four had rankings inside top 1000. As coaches, they have helped their players to as high as the top ten and top twenty on the ATP and WTA tours. The players to the interviewed coaches have played for the national teams in the Davis Cup and Federation Cup for many years. We also have players of the participants who have won several ATP and WTA titles during their careers, and most of them also had really successful junior careers. The coaches also helped their players hold a ranking as high as nr. 1 in their home countries. With many years of experience from professional tennis out on the tours, the interviewed coaches also have experience from coaching their national teams as head coach or assistant coach in the Davis Cup and Federation Cup. They have also gained experience in talent development inside club tennis and national federations, with junior tennis transforming promising juniors into top international professionals. Most participants described their personal characteristics as kind, loyal, calm, happy, engaged, and passionate about tennis. They also mentioned characteristics like being arrogant, controlling, hard to get to know, being one step ahead of you, having too many opinions, shy, and talking too much.

5.3 Data Collection and Procedures

We contacted the eight participants via email and used an informational document template from the Norwegian Center for Research Data. This template included information such as it is voluntary to participate, that their names will be anonymized, the purpose of the research, what the data will be used for, and that they can, whenever they want to, withdraw from the project without giving any explanation. All participants decided to accept the invitation and go through with the interviews, and by doing so, they gave their consents. Due to the COVID-19 pandemic, seven out of eight interviews were conducted via computer-mediated interviews through Zoom meetings, and one was conducted face-to-face with a 2-meter distance between the participant and the interviewer. Computer-mediated interviewing has some advantages, although it is not that common in sport, exercise, and health research. Video forms give the participants a type of anonymity that could help them say things they would be unable to say to the person conducting the interviewing if it were face-to-face. Another advantage is that it allows the interviewer to interview participants anywhere in the world through the computer (Sparkes & Smith, 2014).

We followed guidelines regarding the interview guide from (Atkinson, 2007; Gubrium & Holstein, 2002; Kvale & Brinkmann, 2009; Wolcott, 1995), together with experiences concerning interviewing by Sparkes and Smith (2014). First, we made a list of draft questions based on relevant literature and personal experience on motivational climate in tennis and the mental game of tennis. During this process, we considered questions that addressed the topic regarding experience, context, behavior, values, senses, and also personal background. After

the first phases, we reduced the number of questions, eliminated those that did not really address the research topic, or were similar to other questions. To make this process easier, we thought about planning the interviews around a couple of big issues. We also focused on using open-ended questions instead of closed ones to help the informants open up and tell their stories; it was also important for us to refine the questions and to work on the phrasing so that the questions were intelligible, clearly worded, to the point, and understandable to the participants. As the interviews moved on, the interviewer tried to avoid jargon, abstractions, and academic terminology. More importantly, we focused on the questions to not confuse the participants but rather to help them speak more freely and openly about something that they have experienced. Hence, we also grouped questions around themes that are alike. We found it useful to start the interviews with some “ice-breaker” questions; this was very successful and highly appreciated by the participants. Several of the coaches expressed, “Oh, what a great question.” At that phase, you could really tell that they started to feel more relaxed, which was according to the plan. We also ensured that sensitive questions were placed in the middle and more toward the end of the interviews. The final set of questions that might be called “closed tour” gave the participants a chance to fill in any gaps that might not have been filled in the guide. All coaches seemed satisfied with the questions and their answers during the interviews, as none of them wanted to add anything else in the end.

Before collecting data, we conducted three pilot interviews with the original interview guide before it was updated. In this phase of the study, the interviewer learned to be a better listener and reduced the number of questions and actual words in the language. Skill

improvements were also performed regarding the timing and proper follow-up questions and the appropriate words to use for the interviewer to be an active listener. The interviews lasted between 61:30 minutes and 34:04 minutes, and the average duration was 47:55 min. All eight interviews were audio-recorded and then transcribed verbatim. After the interviews, we sent the transcribed interviews to all participants, allowing them to read and potentially add or delete statements. Only one coach wanted to add one minor detail to the transcribed interview. Before we initiated our analysis, the final report comprised 11 pages of text.

5.4 Analysis

We used thematic analysis following Braun and Clarke's (2006, 2012) systematic six-phase process. One of the main strengths of thematic analysis is its flexibility. Thematic analysis can be used to answer almost all research questions and to analyze almost any data. The analysis started out with phase 1, which comprised familiarizing ourselves with the data, and we also transcribed it verbatim; after that, we read and re-read the data and noted down starting ideas. After transcribing the data verbatim, we ended up with 22 sides of the text, and this was the result of only the data that we decided to use in the report. In phase 2, we continued with a focus on generating initial codes, and we coded interesting characteristics of the data in a systematic approach through the whole data set and organized data relevant to every code. We ended up with 15 different codes. The next step was heading into phase 3 to search for optimal themes and to organize the 15 different codes into possible themes and to assemble all data relevant to each theme. This was followed by the phase 4 of reviewing themes and to examine if the themes worked regarding the coded extracts (level 1) and the

whole dataset (level 2), along with creating a thematic “map” of the analysis. Phase 5 comprised defining and naming themes, and at this point, the analysis was in progress to clarify the specifics of each theme and the overall story the analysis explains creating clear definitions and names for every theme. At this point, we had three themes: “the perceived motivational climate, the mental game of tennis, and the motivational climate: a mental game of tennis.” We then continued into the last phase, which was phased 6, with the goal of producing the report; this was the last chance for analysis. This included selection of graphics, spellbinding extract examples, last analysis of selected extracts, and to associate back of the analysis with the research question and literature, building a scholarly report of the analysis (Braun & Clarke, 2006). We used a deductive thematic analysis, which helped us view the data through a theoretical lens, which allowed existing theoretical concepts to inform coding and theme development, and in this way, our analysis moved beyond the obvious meanings in the data (Clarke et al., 2014). This was the last part of the analysis, and we focused on getting the report to follow the research question and the selected literature on the research topic.

5. 5 Validity

Validity is generally defined as a piece of research showing what it claims to show (Goodman, 2008). A more precise definition is whether a measure accurately captures “reality,” which is obviously problematic in qualitative research (Braun & Clarke, 2013). Construct validity, internal validity, and external validity are all considered highly relevant to quantitative research, but the fourth one, ecological validity, is considered most relevant to qualitative research (Goodman, 2008). Ecological validity is concerned with the relationship

between the “real world” and the research, which sometimes “displays” as whether the context of data collection resembles the context of the real world (and is indeed meaningful to “real life”) and from time to time as to whether the results can be applied to real world settings (Goodman, 2008). As Cho and Trent (2006: 30) purposed, validity in qualitative research involves determining the degree to which researchers’ claims about knowledge correspond to reality (or research participants’ constructions of reality). This conforms with Pitney and Parker’s (2009) suggestion that the essence of internal validity is trust and accuracy. For them, “the concept addresses whether research findings capture what really happened and what participants truly meant and believed about a situation” (p. 62).

5.6 Reliability

In general, reliability refers to the possibility of generating the same results when the same measures are administered by different researchers to a different participant group (Yardley, 2008). Qualitative researchers acknowledge that the researcher inevitably influences the research process and the knowledge produced, and concurrently, they seek to “maximize the benefits of engaging actively with the participants in the study” (Yardley, 2008:237). As Yardley (2008: 237) mentioned, seeking to minimize the influence of the researcher “would make it difficult to retain the same benefits of qualitative research like the generation of data and analysis through the researcher’s active personal engagement with the participants and/or the phenomenon interested in (McLeod, 2001). The things, being said in an interview, for example, depend on the presence and skill of the researcher. Comparably, the types of themes

or categories generated in the analysis depend on the standpoint and experience of the researcher (Braun & Clarke, 2013).

6. Ethical Considerations

Before collecting the data via the interviews, we needed the project to be approved by the Norwegian School of Sport Science's ethical committee (Norwegian School of Sport Sciences, 2020), and our application was approved on October 21, 2020. We also needed to send an application to the Norwegian Center for Research Data (2019), as we conducted interviews, and this included personal data, although the names in the transcribed interviews were anonymized. We used audio-recording, which falls under the category of personal data (Norwegian Center for Research Data, 2019). The application was approved on October 29, 2020. In qualitative interview research, it is important to protect the integrity of the participants. This is important during the actual interviews alongside after we interpreted and presented the study results. For this, it is also common that you make personal recognizable details anonymized, which we have also done in this study (Fangen, 2015). In the actual interviews, it was important for the interviewer to maintain the trust of the participants throughout the interviews. In the concern of this, we also needed to respect the participants' integrity and consider their reviews and motives alongside their self-respect. Alternatively, it is not ethically justifiable for the researcher to provoke an understanding for the participants themselves during the interviews. The participants have agreed to answer the research questions but not to answer any interpretations the researcher might provoke (Fog, 2007:43).

In this study, we also considered the ethical and political aspects of the research topics and research question (Braun & Clarke, 2013). Braun and Clarke (2013) recommended asking questions considering to whom the research might be interesting for, who might have benefits from the outcomes, how the research might be perceived both in a good or bad way, and how it might be used. Hence, it is a question of how ethically delicate or politically sensitive the research is. This is something that we have tried to clarify from the beginning of this research.

The center of attention on ethics at the level of research participants has been mentioned as micro ethics, and macro ethics refers to ethics applied at the degree of the society where the research is conducted (Brinkman & Kvale, 2005). Following an ethical orientation to research, both micro ethics and macro ethics must be considered (Lincoln, 2009). British Psychological Society's (2009) Code of Ethics and Conduct revolves around four principles (respect, competence, responsibility, and integrity). It also includes several "standards." However most of the standards belong to the principle of respect. The need to sustain privacy and confidentiality, the need to get informed consent from participants, and keep away from deception, which induces the need for self-determination. The participants know their right to withdraw from the research both during and after it has passed. Standards incorporated under the principle of competence involve the recognition of professional ethics, standards of ethical decision-making, and limiting competence. All of these aspects belong to being an ethical researcher. Responsibility refers to the idea of "doing no harm," which includes the standard of protection of the participants, which includes factors such as the need to minimize risk and to inform participants of risk together with their right to withdraw from

the research. Debriefing is not usual in qualitative research. However, asking the participants at the end of data collection if they might have any questions “providing details of sources of support,” offering to give a short summary of the research to the participants, could be considered as a version of debriefing. At last, the principle of integrity covers the standard of honesty and accuracy, meaning we do not misrepresent our data or our participants, and we do not use someone else’s research without acknowledging it. Core requirements for ethical research include obtaining informed consent to avoid deception, keeping confidentiality together with privacy, securing participants’ right to withdraw without explanation or any negative impact, not putting the participants at risk and being honest and correct when reporting the research results (Braun & Clarke, 2013). Related to “snakes in the swamp” (Price, 1996: 207), the situation in qualitative research can be more uncertain and complex. This could be explained by the fluidity of the qualitative research.

In this study, we used the IT systems of the Norwegian School of Sport Sciences. This means that the audio-recordings from the interviews were labeled with numbers instead of names, and a list of names was kept apart from the data collection. The laptop that was used in this research for audio-recording storage was secured with a password. It was also important that the only persons who could access these data were my supervisors and I, and we all signed a non-disclosure agreement (Norwegian School of Sport Sciences, 2018).

References

- Ames, C. (1992a). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*(3), 261-271.
<https://doi.org/10.1037/0022-0663.84.3.261>
- Ames, C. (1992b). Achievement goals and adaptive motivational patterns: The role of the environment. I: G. C. Roberts (Ed.), *Motivation in sport and exercise* (s. 161-176). Champaign, IL: Human Kinetics.
- Aryanto, D. B., & Larasati, A. (2020). Factors Influencing Mental Toughness. I: 5th ASEAN Conference on Psychology, Counselling, and Humanities (ACPCH 2019) (pp. 307-309). AtlantisPress.
<https://doi.org/10.2991/assehr.k.200120.066>
- Atienza, F. L., Balaguer, I., & García-Merita, M. L. (1998). Video modeling and imaging training on performance of tennis service of 9- to 12-Year-Old Children. *Perceptual and Motor Skills, 87*(2), 519-529.
<https://doi.org/10.2466/pms.1998.87.2.519>
- Atkinson, R. (2007). The life story interview as a bridge in narrative inquiry. I: D. J. Clandinin (Ed.), *Handbook of narrative inquiry* (pp. 224-245). Thousand Oaks, CA: Sage.
- Balaguer, I., Duda, J. L., & Crespo, M. (1999). Motivational climate and goal orientations as predictors of perceptions of improvement, satisfaction and coach ratings among tennis players. *Scandinavian Journal of Medicine & Science In Sports, 9*(6), 381-388.
<https://doi.org/10.1111/j.1600-0838.1999.tb00260.x>
- Balaguer, I., Guivernau, M., Duda, J. L., & Crespo, M. (1997). Analisis de la validez de constructo y de la validez predictiva del Cuestionario de Clima Motivacional Percibido en el deporte (PMCSQ-2) con tenistas españoles de competición. *Rev. Psicol. Deporte, 11*, 41-59. Retrieved April 28th 2020.
https://www.researchgate.net/publication/259217647_Analisis_de_la_validez_de_constructo_

y_de_la_validez_predictiva_del_Cuestionario_del_Clima_Motivacional_Percibido_en_el_Deporte_PMCSQ-2_con_tenistas_espanoles_de_competicion

Boudreault, V., Trottier, C., & Provencher, M. D. (2018). Investigation of the self-talk of elite junior tennis players in a competitive setting. *International Journal of Sport Psychology*, *9*, 386-40.

doi: 10.7352/IJSP 2018.49.386

Boudreault, V., Trottier, C., & Provencher, M. D. (2019). A Case Study of Junior Elite Tennis Players' and their Parent's Self-Talk. *The Qualitative Report*, *24(7)*, 1658-1680.

Retrieved April 28th 2020.

https://media.proquest.com/media/hms/PFT/1/f6AfA?_s=iv24irXoLP41TxKDWdbwwJq5tlk%3D

Bowen, G. A. (2008). *Naturalistic inquiry and the saturation concept: a research note. Qualitative Research*, *8*.

Braun, V., Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101.

doi:10.1191/1478088706qp063oa

Braun, V., Clarke, V. (2012). Thematic analysis. I: H. Cooper (Ed.), *APA Handbook of research methods in psychology* (vol 2: Research designs, pp. 57-71). Washington, DC: APA books.

Braun, V., & Clarke, V. (2013). *Successful qualitative research a practical guide for beginners*. London: Sage.

Brinkman, S. & Kvale, S (2005). Confronting the ethics of qualitative research. *Journal of Constructivist Psychology*, *18(2)*, 157-181.

<https://doi.org/10.1080/10720530590914789>

British Psychological Society (2009) Code of Ethics and Conduct.

Retrieved May 26th 2020.

<https://www.bps.org.uk/sites/www.bps.org.uk/files/Policy/Policy%20-%20Files/Code%20of%20Ethics%20and%20Conduct%20%282009%29.pdf>

Caserta, R. J., Young, J., & Janelle, C. M. (2007). Old dogs, new tricks: Training the perceptual skills of senior tennis players. *Journal of Sport and Exercise*, 68

<https://doi.org/10.1123/jsep.29.4.479>

Cece, V., Guillet-Descas, E., & Martinent, G. (2020). Mental training program in racket sports: A systematic review. *International Journal of Racket Sports Science*, 2(1), 55-71.

<https://doi.org/10.30827/Digibug.63721>

Coelho, R. W., De Campos, W., Silva, S. G. D., Okazaki, F. H. A., & Keller, B. (2007).

Imagery intervention in open and closed tennis motor skill performance. *Perceptual and Motor Skills*, 105(2), 458-468.

<https://doi.org/10.2466/pms.105.2.458-468>

Covassin, T., & Pero, S. (2004). The relationship between self-confidence, mood state, and anxiety among collegiate tennis players. *Journal of Sport Behavior*, 27(3), 230-242.

Cervelló, E., Santos – Rosa, F. J., Jiménez, R., Nerea, A., & Garcia, T. (2002). Motivación y ansiedad en jugadores de tenis. *Rev. Motricidad*, 9, 141-161.

Cervelló, E., Santos Rosa, F. J., García Calvo, T., Jiménez, R. & Iglesias, D. (2007). Young Tennis Players' Competitive Task Involvement and Performance: The Role of Goal Orientations, Contextual Motivational Climate, And Coach-Initiated Motivational Climate.

Journal of Applied Sport Psychology, 19(3), 304–321.

<https://doi.org/10.1080/10413200701329134>

Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative research*, 6: 319-340.

Clarke, V., Braun, V., & Hayfield, N. (2014). Thematic analysis. I: Smith, J. A. (Ed.), *Qualitative psychology. A practical guide to research methods (3rd ed., pp. 222-248)*. London: Sage.

Crespo, M., Reid, M., & Quinn, A. (2006). *Tennis psychology*. London: ITF Ltd.

Crespo, M. & Reid, M. (2007). Motivation in tennis. *British Journal of Sports Medicine, 41(11)*, 769-772.

<http://dx.doi.org/10.1136/bjism.2007.036285>

Dana, A., & Gozalzadeh, E. (2017). Internal and external imagery effects on tennis skills among novices. *Perceptual and Motor Skills, 124(5)*, 1022-1043.

<https://doi.org/10.1177/0031512517719611>

Daw, J., & Burton, D. (1994). Evaluation of a comprehensive psychological skills training program for collegiate tennis players. *The Sport Psychologist, 8(1)*, 37-57.

<https://doi.org/10.1123/tsp.8.1.37>

Dohme, L.- C., Bloom, G. A., Piggott, D., & Backhouse, S. (2019). Development, implementation, and evaluation of an athlete- informed mental skills training program for elite youth tennis players. *Journal of Applied Sport Psychology, 1-21*.

<https://doi.org/10.1080/10413200.2019.1573204>

Dohme, L. - C Bloom, A. G., & Knight, C. J. (2020). Understanding the behaviours employed by parents to support the psychological development of elite youth tennis players in England. *International Journal of Sport and Exercise Psychology*.

<https://doi.org/10.1080/1612197X.2020.1827004>

Duda, J. L. (2001). The implications of the motivational climate in tennis. I: M. Crespo., M. Reid. & D. Miley (Eds.), *Top tennis coaching* (s. 55–58). London: ITF Ltd.

Duda, J. L., & Whitehead, J. (1998). Measurement of Goal Perspectives in the Physical Domain. In J. Duda (Ed.), *Advances in Sport and Exercise Psychology Measurement* (pp. 21-48). Morgantown, WV: Fitness Information Technologies.

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, *41*(10), 1040–1048.

<https://doi.org/10.1037/0003-066X.41.10.1040>

Dweck, C. S. (1999). *Self-theories and goals: Their role in motivation, personality, and development*. Philadelphia: Taylor & Francis.

Elliott, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, *54*(1), 5–12.

<https://doi.org/10.1037/0022-3514.54.1.5>

Epstein, J. (1989). Family structures and student motivation: A developmental perspective. I: C. Ames & R. Ames (Eds.), *Research on motivation in education*, *3*, 259-295. New York: Academic Press.

Esposito, G., Ceruso, R., D'Elia, F., & D'Isanto, T. (2020). Performance anxiety: How to play reliable and rational tennis by reducing mental pressure. *Journal of Human Sport and Exercise*, *15*(2), 213- 221.

<https://doi.org/10.14198/jhse.2020.15.Proc2.12>

Fangen, K. (2015). *Kvalitativ metode*.

Retrieved May 10th 2020.

<https://www.etikkom.no/FBIB/Introduksjon/Metoder-og-tilnarminger/Kvalitativ-metode/#Intervju>

Fog, J. (2007). *Med samtalen som udgangspunkt*. 2. Utg. Akademisk Forlag. København.

Fritsch, J., Jekauc, D., Elsborg, P., Latinjak, A. T., Reichert, M., & Hatzigeorgiadis, A. (2020). Self-talk and emotions in tennis players during competitive matches. *Journal of Applied Sport Psychology*.
<https://doi.org/10.1080/10413200.2020.1821406>

Gallwey, T. W. (2015). *The Inner Game of Tennis. The ultimate guide to the mental side of peak performance*. London: Pan Books.

Goodman, S. (2008). The generalizability of discursive research. *Qualitative research in Psychology*, 5, 265-275.
<https://doi.org/10.1080/14780880802465890>

Gould, D., Medbery, R., Damarjian, N. & Lauer, L. (1999). A Survey of mental skills training knowledge, opinions, and practices of junior tennis coaches. *Journal of Applied Sport Psychology*, 11(1), 28-50.
<https://doi.org/10.1080/10413209908402949>

Gubrium, J., & Holstein, J. (2002). *Handbook of interview research*. Thousand Oaks, CA: Sage.

Guillot, A., Desliens, S., Rouyer, C., & Rogowski, I. (2013). Motor imagery and tennis serve performance: The external focus efficacy. *Journal of Sports Science & Medicine*, 12(2), 332-338.

Harwood, C. (2016). Twenty years' experience working within professional tennis. I: R. J. Schinke & D. Hackfort (Eds.), *Psychology in professional sports and the performing arts: Challenges and strategies*. London: Routledge.

Harwood, C., & Knight, C. (2009). Understanding parental stressors: An investigation of British tennis- parents. *Journal of Sports Sciences*, 27(4), 339-351.

<https://doi.org/10.1080/02640410802603871>

Harwood, C. & Biddle, S. (2002). The application of achievement goal theory in youth sport. I: I. Coackerill (Ed.), *Solutions in sport psychology* (s. 58-73). London: Thompson Learning.

Harwood, C. G., Caglar, E., Thrower, S. N., & Smith, J. M. J. (2019). Development and Validation of the Parent-Initiated Motivational Climate in Individual Sport Competition Questionnaire. *Front. Psychol*, 10, 128.

<https://doi.org/10.3389/fpsyg.2019.00128>

Harwood, C. G., Keegan, R. J., Smith, J. M., & Raine, A. S. (2015). A systematic review of the intrapersonal correlates of motivational climate perceptions in sport and physical activity. *Psychol. Sport Exerc.* 18, 9–25.

<https://doi.org/10.1016/j.psychsport.2014.11.005>

Harwood, C., & Swain, A. (2002). The Development and Activation of Achievement Goals Within Tennis: II. A Player, Parent, and Coach Intervention. *The Sport Psychologist*, 16(2), 111-137.

<https://doi.org/10.1123/tsp.16.2.111>

Hatzigeorgiadis, A., & Biddle, S. (1999). The effects of goal orientation and perceived competence on cognitive interference during tennis and snooker performance. *Journal of Sport Behavior*, 22(4), 479–501.

Retrieved May 28th 2020.

<https://psycnet.apa.org/record/1999-15471-002>

Jagacinski, C. M., & Nicholls, J. G. (1984). Conceptions of ability and related affects in task involvement and ego involvement. *Journal of Educational Psychology*, 76(5), 909–919.

<https://doi.org/10.1037/0022-0663.76.5.909>

- Kaplan, A., & Maehr, M. L. (2007). The contributions and prospects of goal orientation theory. *Educational psychological review*, 19(2), 141-184.
[doi:10.1007/s10648-006-9012-5](https://doi.org/10.1007/s10648-006-9012-5)
- Kavussanu, M. & Roberts, G. C. (1996). Motivation in Physical activity contexts: the relationship of perceived motivational climate to intrinsic motivation and self-efficacy. *Journal of Sport and Exercise Psychology*, 18, 264-280.
<https://doi.org/10.1123/jsep.18.3.264>
- Kincses, G., Ormos, M., Bartha, Z. 2021. Motivational peculiarities of elite women tennis players from the post-socialist countries. *Entrepreneurship and Sustainability Issues*, 8(3), 582-591.
[https://doi.org/10.9770/jesi.2021.8.3\(36\)](https://doi.org/10.9770/jesi.2021.8.3(36))
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing*. Thousand Oaks, CA: Sage.
- Lauer, L., Gould, D., Roman, N., & Pierce, M. (2010a). How Parents Influence Junior Tennis Players' Development: Qualitative Narratives. *Journal of Clinical Sport Psychology*, 4, 69-92.
<https://doi.org/10.1123/jcsp.4.1.69>
- Lauer, L., Gould, D., Roman, N., & Pierce, M. (2010b). Parental behaviors that affect junior tennis player development. *Psychology of Sport & Exercise*, 11, 487-496.
<https://doi.org/10.1016/j.psychsport.2010.06.008>
- Lemyre, P. N., Roberts, G. C., Gundersen, J. C. (2007). Motivation, overtraining, and burnout: Can self-determined motivation predict overtraining and burnout in elite athletes? *European Journal of Sport Science* 7(2),115-126.
<https://doi.org/10.1080/17461390701302607>
- Lincoln, Y. S. (2009). Ethical practices in qualitative research. I: D. M. Mertens & P. E. Ginsberg (Eds.), *The handbook of social research ethics* (pp. 150-169). Los Angeles: Sage.

- Maehr, M. L. & Braskamp, L. A. (1986). *The motivation factor: A theory of personal investment*. MA: Lexington Books / Heath.
- Maehr, M. L., & Nicholls, J. G. (1980). Culture and Achievement Motivation: A Second Look. I: N. Warren (Ed.), *Studies in Cross-Cultural Psychology* (Vol. 2, pp. 221-267). New York: Academic Press.
- Mathers, J. F. (2017). Professional tennis on the ATP tour: A case study of mental skills support. *The Psychology of Sport and Exercise*, 8(1), 25-46.
<https://doi.org/10.1123/tsp.2016-0012>
- McLeod, J. (2001). *Qualitative research in counselling and psychotherapy*. London: Sage.
- Morse, J. M. (1995). The significance of saturation. *Qualitative Health Research*, 5, 147-149.
<https://doi.org/10.1177/104973239500500201>
- Møllerløgken, N. E., Lorås, H. & Pedersen, A. V. (2017). A Comparison of Players' and Coaches' Perceptions of the Coach-Created Motivational Climate within Youth Soccer Teams. *Frontiers in Psychology*, 8, 109.
<https://doi.org/10.3389/fpsyg.2017.00109>
- Nicholls, J. G. (1979). Quality and equality of intellectual development: The role of motivation in education. *American psychologist*, 34(11), 1071-1084.
<https://doi.org/10.1037/0003-066X.34.11.1071>
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological review*, 91(3), 328-346.
<https://doi.org/10.1037/0033-295X.91.3.328>
- Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Cambridge, MA: Harvard University Press.

Norwegian Centre of Personal Data. (2019). *Må jeg melde projektet mitt?*

Retrieved May 28th 2020.

https://nsd.no/personvernombud/meld_prosjekt/index.html

Norwegian School of Sport Sciences. (2018). *Sikkerhetskrav ved lagring av aktivt forskningsmateriale ved NIH.*

Retrieved May 26th 2020.

<https://www.nih.no/forskning/forskning-pa-nih/prosjektadministrasjon/gjennomforing/sikkerhetskrav-ved-lagring-av-aktivt-forskningsmateriale-ved-nih/>

Norwegian School of Sport Sciences. (2020). *NIH's etiske komité.*

Retrieved May 10th 2020.

<https://www.nih.no/forskning/forskning-pa-nih/etikk/nihs-etisk-komite/>

Patton, M. Q. (2002). *Qualitative research & evaluation methods (3rd ed.)*. Thousand Oaks, CA: Sage.

Pensgaard, A. M., & Roberts, G. C. (2000). The relationship between motivational climate, perceived ability and sources of distress among elite athletes. *Journal of Sports Sciences* 18(3), 191-200.

<https://doi.org/10.1080/026404100365090>

Pitney, W., & Parker, J. (2009). *Qualitative research in physical activity and the health professions*. Champaign, IL: Human Kinetics.

Price, (1996). Snakes in the swamp: ethical issues in qualitative research. I: R.-E. Josselson (Ed.), *Ethics and process in the narrative study of lives* (pp. 207-215). London: Sage.

Roberts, G. C. (1992). *Motivation in sport and exercise*. Champaign, IL: Human Kinetics.

Roberts, G. C. (2012). Motivation in sport and exercise from an achievement goal theory perspective: After 30 years, where are we? I: G. C. Roberts & D. C. Treasure (Eds.),

Advances in motivation in sport and exercise (3rd ed., pp. 5-58).

Champaign, IL: Human Kinetics.

Roberts, G. C., Treasure, D. C., & Balague, G. (1998). Achievement goals in sport: The development and validation of the Perception of Success Questionnaire. *Journal of Sports Sciences, 16(4)*, 337 — 347.

<https://doi.org/10.1080/02640419808559362>

Roberts, G. C., Treasure, D. C., & Conroy, D. E. (2007). Understanding the dynamics of motivation in sport and physical activity: An achievement goal interpretation. I: G. Tenenbaum & R. E. Eklund (Eds.), *Handbook of sport psychology (3rd ed., pp. 3-30)*. Hoboken, NJ: Wiley.

Roberts, G. C., Treasure, D. C., Kavassanu, M. (1997) Motivation in physical activity contexts: An achievement goal perspective. I: P. Pintrich, M, Maehr (Eds.), *Advances in motivation and achievement (Vol 10)* (pp. 413–447). Stamford, CT: JAI Press.

Rottensteiner, C., Konttinen, N. & Laakso, L. (2015). Sustained Participation in Youth Sports Related to Coach-Athlete Relationship and Coach-Created Motivational Climate.

International Sport Coaching Journal, 2(1), 29-38.

<https://doi.org/10.1123/iscj.2014-0060>

Sandelowski, M. (1995). Sample size in qualitative research. *Research in Nursing & Health, 18*, 179-183.

<https://doi.org/10.1002/nur.4770180211>

Smith, R. E., Smoll, F. L. & Cumming, S. P. (2007). Effects of a Motivational Climate Intervention for Coaches on Young Athletes' Sport Performance Anxiety. *Journal of Sport & Exercise Psychology, 29(1)*, 39-59.

<https://doi.org/10.1123/jsep.29.1.39>

Soares, A., & Harwood, C. (2017). The psychology of turning points in tennis. *ITF Coaching and Sport Science Review*; 71(25), 26 -27.

Retrieved march 21th 2021.

<https://www.manlylawn.com.au/wp-content/uploads/2018/05/ITF-PsychologyTurningPoints.pdf>

Sparkes, A. C. & Smith, B. (2014). *Qualitative research methods in sport, exercise and health. From process to product*. Routledge: Oxon.

Thagaard, T. (2018). *Systematikk og innlevelse: En innføring i kvalitative metoder (5th ed.)*. Bergen: Fogbokforlaget.

Theodosiou, A. E., Mavvidis, A., & Tsigilis, N. (2018). Dealing with stress during tennis competition. The association of approach- and avoidance-coping with metacognition and achievement goal theory perspectives. *Journal of Physical Education and Sport*, 18(4),2454 – 2465.

doi:10.7752/jpes.2018.04368

Thibodeaux, J., & Winsler, A. (2018). What do youth tennis athletes say to themselves? Observed and self-reported self-talk on the court. *Psychology of Sport and Exercise* 38, 126-136.

doi:10.1016/j.psychsport.2018.06.006

Wiersma, L. D., & Fifer, A. M. (2008). “The schedule has been tough but we think it’s worth it”: The joys, challenges, and recommendations of youth sport parents. *Journal of Leisure Research*, 40, 505-530.

<https://doi.org/10.1080/00222216.2008.11950150>

Wolcott, H. (1995). *The art of fieldwork*. London: AltaMira Press.

Yardley, L. (2008). Demonstrating validity in qualitative psychology. I: J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (2nd ed., pp. 235-251).

London: Sage.

Yi-Hsu, W., Chien-Chih, C., Mei-Yao, H., Kuo-Chuan, T., & HuiMei, L. (2005). *The effects of different tennis teaching models on perceptions of learning environment and learning outcomes of tennis in college physical education*. AAHPERD National Convention and Exposition.

Yoo, J. (2003). Motivational climate and perceived competence in anxiety and tennis performance. *Per. & Mot. Skills, 96* (2), 403 - 413.

doi:10.2466/pms.2003.96.2.403

Yoo, S. L., & Calderon R. Jr. (2018). Using Counselling to Improve the Self-confidence of a Young Competitive Tennis Female Tennis Player: A

Case Study. *International Journal of Coaching Science, 12*(2), 29 -48.

Retrieved May 30th 2020.

https://www.researchgate.net/publication/327593436_Using_Counseling_to_Improve_the_Self-Confidence_of_a_Young_Competitive_Female_Tennis_Player_A_Case_Study

Article

Coach-Created Motivational Climate in Professional Tennis from the Coaches' Perspective

Abstract

Introduction: In tennis, world ranking determines what tournaments players can attend. Thus, better results provide better opportunities, and to get those normative results, players need to improve and progress. Based on achievement goal theory (AGT), this study examines how leading Nordic tennis coaches perceive the motivational climate they create for their players.

Method: We purposefully sampled, and interviewed, eight professional coaches that had all worked with the top 100 players who had played in the Association of Tennis Professionals (ATP) or the Women's Tennis Association (WTA) tours. Some of these coaches had even worked with players from the world's top 10. We gathered the coaches' perceptions through semi-structured interviews for thematic analysis.

Results: The findings of this study show that the interviewed coaches define players' real success in terms of their development, skill mastery, and reaching their potential. Although they discuss that winning is the only thing that counts, they state that focusing on player development and effort results will give the desired results eventually. To achieve success, the coaches emphasized the importance of promoting athlete ownership, which is coherent with autonomy-supporting climates from self-determination theory (SDT).

Conclusion: The motivational climate was perceived to be strongly both ego- and mastery-involving, but the coaches perceived that they enforced mastery involvement in their players, as this is what coaches ought to encourage at the professional level.

Keywords: motivational climate, tennis, sport psychology, qualitative research

Introduction

Previous research on the motivational climate emanating from achievement goal theory (AGT; e.g., Nicholls, 1984, 1989) has mainly focused on team sports (Harwood et al., 2015). However, little research has examined the motivational climate in individual sports, such as tennis, swimming, and track and field (Harwood et al., 2019). In tennis, as in some other individual sports, the motivational climate is shaped in training, at home, and mainly *before* or *after* competitions (e.g., Duda, 2001). During matches, coaches are referred to the stands and are not allowed to communicate with the players, although cheers from parents and spectators might influence players' perceptions of the extant motivational signals.

At first glance, elite tennis might be highly ego-involving through the ranking system, where the win-loss ratio against other players is the foundation of every players' status. However, the dichotomous win–loss evaluation does not provide information and feedback on their individual performance (i.e., hitting harder, running faster, or having more successful serves) or how they did relative to their previous accomplishments (Harwood & Biddle, 2002).

Tennis is also a game of the mind, as it is both complex and indeterminate—such as a lower ranking player performing their best “precisely this day.” Thus, the potential of losing against lower-ranking players is always looming, and being unable to cope mentally with this stressor can instantly affect your own ranking. There are numerous other stressors—internal and external distractions—that a tennis player must overcome to perform optimally (Esposito et al., 2020). Common player complaints, according to Gallwey (2015), involve playing better during practice than in matches, becoming nervous when approaching a match point, and being their own worst enemy. Players make around 800 decisions during a match, and their mental performance may be affected by bad calls, behavior from the crowd, and harsh weather conditions (Crespo et al., 2006).

The present study primarily explores the associations between AGT in tennis, as called for by Harwood (2016), by examining the motivational climate that professional Nordic tennis coaches perceive that they create. In particular, Harwood and colleagues (e.g., Harwood, 2016; Harwood & Swain, 2001, 2002) have promoted AGT as a fruitful

undergirding of effective social-cognitive interventions in tennis—helping players with their mental game. To obtain in-depth data on their perceptions, we conducted in-depth semi-structured interviews with the tennis coaches.

Theoretical Underpinning

AGT (e.g., Ames, 1992a; Dweck, 1999; Nicholls, 1984, 1989) aims to understand the function and meaning of goal-directed actions, which are based on how participants define ability and how they judge whether they demonstrate competence. According to Nicholls (1989), one may hold two different conceptions of ability that direct two different states of goal involvement based on a player's belief of success and failure in the extant moment. These two states are termed ego and mastery (or task) involvement, and the common premise is that players may only be in one state at a time (e.g., Nicholls, 1989) but that this state might shift quickly (e.g., Gernigon et al., 2004). The adopted state of involvement is believed to be shaped by a combination of dispositional goals (achievement goal orientations) and environmental motivational cues (perceived motivational climate).

The dispositional goals, typically termed ego and mastery/task orientation, reflect the tendency to adopt normative or self-referenced success criteria in achievement situations. An ego-oriented athlete considers success to be a demonstration of a higher ability than others (i.e., outperforming them) and getting public praise, whereas a mastery-oriented player considers success to be improvement, the learning of new skills, and applying high effort. Personal differences in the disposition to be mastery-involved or ego-involved are held to result from socialization through mastery- or ego-involving contexts at home or in other significant achievement environments (i.e., classrooms or physical activities; e.g., Nicholls, 1989; Roberts et al., 1997). The achievement goals are thought to be orthogonal (e.g., Roberts, 2012), although elite athletes show a high/high profile—being both highly ego *and* mastery oriented (e.g., Abrahamsen et al., 2008).

In AGT, the motivational climate created within adult-controlled achievement settings has received particular attention (see Roberts, 2012) because these interact with the goal orientations to influence the state of involvement. Analogous to the orientations, the

environmental climate reflects how these adults structure the situation and define success; they are correspondingly termed ego (or performance) and mastery climates.

In an ego-involving climate, adults promote social comparison as a basis for success judgements. When coaches (or parents) implement ego-involving climates, they tend to give differential attention and positive reinforcement to players with the higher ability—focusing on winning. Poor performance or mistakes may be punished with criticism, teaching players that mistakes need to be avoided—potentially building a fear of failure—and that open social comparison could lead to unhealthy peer rivalry (e.g., Roberts, 2012). Another unfortunate outcome associated with an ego climate is winning at all costs, even if rule breaking is required (Ames, 1992a, 1992b).

In a mastery-involving climate, important adults (i.e., teachers, coaches, or parents) define success in terms of self-improvement, task mastery, and giving maximum effort and dedication. In a mastery-involving climate, athletes are likely to adopt adaptive achievement strategies (i.e., selecting challenging tasks, giving maximum effort, persisting when setbacks occur, and taking pride in personal improvement). In sports, several positive outcomes have been particularly linked to a mastery-involving motivational climate (see Roberts, 2012): greater enjoyment and satisfaction, stronger intrinsic and self-determination motivation, group cohesion, and lower levels of performance anxiety. A mastery-involving climate in tennis may create higher effort, whereas in ego-involving environments, increased effort may be considered a double-edged sword, as losing with high effort shows the least competence. Winning with little effort shows the highest normative ability (e.g., Cervelló et al., 2002; Kavussanu & Roberts, 1996), but this strategy is potentially maladaptive for improvement in the long run.

Contextual Background in Tennis

As mentioned previously, tennis typically rewards performance outcomes and lacks individualized feedback (Harwood and Biddle, 2002). A player is “alone yet never alone” on the tennis court (Harwood, 2016). This statement is especially true before they become professional players, as they are personally responsible for things such as managing their own

line calls, confronting their opponent's calls, coaching themselves during matches, being able to cope with setbacks, performing time management, and dealing with fatigue. During matches, tennis players cannot access outside help or assistance; however, there are outside expectations and judgments within the players' minds (Harwood, 2016). With typically ability-based evaluations outside the court (i.e., match outcomes, score line, winners, and unforced errors), tennis characteristically emphasizes normatively evaluated success criteria, as outlined in an ego-involving motivational climate (Ames, 1992b). However, with the many positive aspects of mastery-involving climates (for a review, see Roberts, 2012), tennis is advised to support a mastery climate, as it helps to develop flexible coping behaviors in stressful situations (Theodosiou et al., 2018). In tennis, there are no substitutes, no chances for time-out during matches, and no on-court coaching during matches. Players therefore need to be able to adapt their play to different environments (i.e., surfaces such as grass-, clay-, hard-courts), altitudes, competition conditions, and dissimilar opponent types (Crespo & Reid, 2007). Mental pressure is considered a main cause for players to leave the sport, especially younger players (Aryanto & Larasati, 2020).

Empirical Findings

Mental preparations in tennis, according to Soares and Harwood (2017), include routines, breathing exercises, and strategies for dealing with certain situations when they occur in a match. In a case study on the Association of Tennis Professionals (ATP) tour, Mathers (2017) found that, through imagery, pre-point routines, and positive self-statements, players reported increased performance and outcomes. Gould et al. (1999) found that roadblocks to mental skills training (MST) in tennis included a lack of time, a lack of player interest, difficulty evaluating the effects of MST on tennis, and examples of actual coaches teaching MST. Coaches expressed the need for practical MST exercises that could be taught in 10–15 minutes and strategies to engage players in MST. In an intervention study, Guillot et al. (2013) found that mental imagery training with an external focus increased serve performance in match play. Thibodeaux and Winsler (2018) found that tennis players' self-talk was mainly negative and rarely instructional. Fritsch et al. (2020) reported that most

players talked to themselves and that their self-talk was related to their experienced emotion. Boudreault et al. (2018) reported a category of self-talk in competitive tennis that they coined performance pressure and consisted of phrases like “I should,” “I have,” “I am supposed,” and “I have got.” The researcher reported this self-talk as part of a focus on doing well.

In a rare study with beginners in PE, Yoo (2003) examined how an ego- vs. a mastery-involving climate affected the participants over a six-week program. In the ego-climate, the players had consistent levels of performance anxiety but decreased tennis performance, whereas in the mastery climate, tennis performance increased, and anxiety levels decreased. This study attested to the AGT predictions; however, to our knowledge, few studies have examined how coaches perceive themselves, especially in elite sports, and none have been conducted in tennis.

Research Aim

This study explores Nordic elite tennis coaches’ perceptions of the motivational climate they create to identify differences and commonalities in their perceptions. The hope is that our results will inform the “adults” in tennis (i.e., coaches, parents, and sport directors) by illuminating coaches’ perceptions of their practice environment and providing information to further the motivational climate for future tennis players. Based on this we aim to answer the following research question:

- How do professional Nordic tennis coaches on the ATP and WTA tours perceive the motivational climate they create?

Methods

Research Philosophy

To delve deeper into the coaches' perceptions of the motivational climate they create, we utilized a qualitative approach using semi-structured interviews to obtain rich in-depth data (Braun & Clark, 2013). The interview guide had several overarching dimensions, addressing (a) how they started as a tennis coach, (b) how they describe the motivational climate in tennis generally and in their practice, (c) how they perceive the mental game in tennis, and (d) how they describe the players they work with and how they work together, (e) the relationship between player and coaches, (f) and perceived coach behaviors. The questions for the project were decided prior to the interviews but we decided the order of the themes during the interviews to build rapport and let the coaches talk freely. By doing so, we could listen to their accounts and descriptions (Thagaard, 2018). To tap into their experiences, we used mainly open-ended questions for each general dimension, such as, "How does a typical day of coaching look like for you?" When relevant, we asked follow-up questions and used paraphrasing to clarify or dig deeper into core concepts. This approach suited this project because it allowed the interviewer to listen to the participant's stories and at the same time make sure the themes that were important for the research question were being addressed (Thagaard, 2018).

Participants

Based on Braun and Clarke's (2013) recommendation to develop inclusion and exclusion criteria for the sample, we purposefully sampled Nordic professional tennis coaches who have coached players from the top 100 of the ATP or the Women's Tennis Association (WTA) tours. Three of the coaches reached the top 100 as players themselves. Coaching the top 100 players is the pinnacle in tennis, as becoming a top 100 player is very hard. All coaches had helped some of their players reach the top 100, with some players reaching the top 10/20 of the ATP and WTA tours. The players of the interviewed coaches have played for the national teams in the Davis Cup and the Federation Cup for several years. Several of the

coaches' players won the ATP and WTA titles during their careers, and most of them also had successful junior careers beforehand. The coaches have all had many years of experience in professional tennis and of the tennis tours, some coaching national teams as head coach or assistant coach in the Davis and Federation Cups. Thus, in-depth information from these coaches was valuable to our research.

Data Collection and Procedures

We reached out to the eight participants by email and used an informational document template from the Norwegian Centre for Research Data. This template informed the participants that their participation was voluntary, that their names would be anonymized for the purpose of the research, what the data would be used for, and that they could withdraw from the project at any time without giving any explanation. All participants accepted the invitation and attended the interviews, and by doing so, gave their consent. The participants consisted of six male coaches and two female coaches. Qualitative research tends to use smaller samples than quantitative research, but at the same time, “there are no rules for sample size in qualitative inquiry” (Patton, 2002, p. 244). We applied “saturation”—a concept developed from grounded theory (Bowen, 2008)—which usually refers to the point when additional data fail to generate new information (Morse, 1995; Sandelowski, 1995); we reached saturation after the eighth interview.

Because of the Covid-19 pandemic, seven out of the eight interviews were done online via video through Zoom meetings, and one was carried out face to face with a two-meter distance between the participant and the interviewer. Computer-mediated interviewing has some advantages, although it is not that common in sport, exercise, and health research. Video forms gave the participants a type of anonymity that could help them say things they might not be willing to say to the person conducting the interviewing if they were sitting in the same room. Another advantage is that this makes it possible for the interviewer to interview participants anywhere in the world through the computer (Sparkes & Smith, 2014).

We followed guidelines for the interview guide (Atkinson, 2007; Gubrium & Holstein, 2002; Kvale & Brinkmann, 2009; Wolcott, 1995) along with experiences concerning

interviewing by Sparkes and Smith (2014). First, we made a list of draft questions based on relevant literature and personal experience on motivational climate in tennis and the mental game of tennis. During this process, we considered questions that addressed the topic with regard to experience, context, behavior, values, senses, and personal background. After the first two phases, we reduced the number of questions and eliminated those that did not directly address the research topic or were similar to other questions. To simplify this process, we planned the interviews around a couple of big issues. We also used open-ended questions instead of closed ones to help the informants “open up” and tell their stories. Here, it was also important for us to refine the questions and work on the phrasing so that the questions were intelligible, clearly worded, to the point, and understandable by the participants. As the interviews progressed, we also aimed to avoid jargon, abstractions, and academic terminology and focused on the questions to help the interviewees speak more freely and openly about their experiences. We also grouped the questions around similar themes. We found it useful to start the interviews with some “ice-breaker” questions, which was very successful and highly appreciated by the participants. Several of the coaches expressed, “Oh, what a great question” before visibly becoming more relaxed. We also placed sensitive questions in the middle and more toward the end of the interviews. The final set of questions that might be called “closed tours” gave the participants a chance to fill in any gaps that might not have been filled in the guide. All coaches seemed satisfied with the questions and their answers during the interviews, as none of them wanted to add anything at the end.

Before starting the data collection, we carried out three pilot interviews with the original interview guide before making some amendments. In this phase of the study, the interviewer improved his listening skills and reduced the number of questions and actual words in the language. Skill improvements were also made with regard to the timing and follow-up questions and the appropriate words for the interviewer to use as an active listener.

The interviews lasted between 34:04 minutes and 61:30 minutes, giving an average duration of 47:55 minutes. All eight interviews were audio recorded and transcribed verbatim. After the interviews, we sent the transcribed interviews to all participants, giving them the chance to read and potentially add or delete statements. Only one coach wanted to add one

minor detail to their transcribed interview. Before starting our analysis, the final report consisted of 11 pages of text.

Analysis

We used thematic analysis and followed Braun and Clarke's (2006, 2012) systematic six-phase process. One of the main strengths of thematic analysis is its flexibility. Thematic analysis can be used to answer almost any kind of research question and to analyze almost any kind of data, meaning we could apply thematic analysis to our data in different ways, both in an experimental and critical way. This analysis method helps to learn basic data-handling and coding skills without having to dig deep into theoretical constructs (Braun & Clarke, 2013).

In the present study, we used the six phases of thematic analysis (Braun & Clarke, 2006). Phase 1 consisted of familiarizing ourselves with the data and transcribing it verbatim. After that, we read and re-read the data and noted down starting ideas. We ended up with 22 sides of text, using only the data that we decided to use in the report. In Phase 2, we generated initial codes, coded interesting characteristics of the data using a systematic approach through the whole dataset, and organized data relevant to each code. We ended up with 15 different codes. Phase 3 involved searching for optimal themes, organizing the 15 different codes into possible themes, and assembling all data relevant to each theme. In Phase 4, we reviewed the themes and examined whether they worked with regard to the coded extracts (Level 1) and the whole dataset (Level 2). We also created a thematic "map" of the analysis. Phase 5 consisted of defining and naming themes and clarifying the specifics of each theme and the overall story. At this point, we had three themes: "The perceived motivational climate," "The mental game of tennis," and "The motivational climate: A mental game of tennis." The aim of the last phase, Phase 6, was to select graphic and spellbinding extracts as examples, perform the last analysis of the selected extracts, associate the analysis with the research question and literature, and build a scholarly report of the analysis (Braun & Clarke, 2006). We used deductive thematic analysis to view the data through a theoretical lens, which allows existing theoretical concepts to inform coding and theme development; in this way, our analysis

moves beyond the obvious meanings in the data (Clarke et al., 2014). Finally, we focused on getting the report to be in line with the research question and the selected literature on the research topic.

Results and Discussion

To understand the meaning of the present findings, this section presents and discusses the findings. To answer our research question: “How do professional Nordic tennis coaches on the ATP and WTA tours perceive the motivational climate they create?” we address the perceptions of the motivational climate followed by the perceptions of the mental game of tennis first as separate parts and then together. We have chosen to focus on tennis because it is described as a very complex sport, and tennis literature on motivational climate describes tennis to be mentally challenging (Harwood, 2016; Crespo et al. 2006).

The Perceived Coach-Created Motivational Climate

A Mastery-Involved Approach in an Ego-Involving Climate

To evaluate the motivational climate that the coaches perceived to have created themselves, we started the interviews with questions directed toward their definitions of success and failure in tennis. Overall, the coaches interviewed all agreed that winning is the only thing that you get rewarded for in tennis, meaning that it does not matter if you play well or not as long as you win, and professional tennis players do not care whether they play well or not as long as they win and ascend the rankings. The findings of this study show that all eight coaches defined real success in tennis as requiring personal development and skill mastery to reach players’ full potential. However, they also claimed that, although winning is the only thing that counts, by focusing on personal development and maximum effort every day, the results will come eventually. These findings are important to highlight because Harwood (2016) described the link between AGT and tennis as quite complex, with tennis rewarding only the result and not the performance.

A loss does not necessarily mean failure, but when you do not try to play your best tennis out on the court, that is failure. (Female Coach)

It is all right to be sad and disappointed after a loss and then heal, but it is important that it leads to newfound energy and a drive that you want to come back and win again. In this process, it is crucial that the coach is ready the next day to train hard with the player on the court. (Female Coach)

According to Ames (1992a, 1992b), players in a mastery-involving motivational climate persist when setbacks occur and take great pride in their personal development and executing maximum effort. At the same time, the nature of tennis is highly ego-involving, and according to the findings of this study, the coach have to see the bigger picture when losing, meaning that you cannot draw too big a conclusion from one result as a coach, as there might be different explanations as to why your player lost the match. For example, according to the coaches, a poor result might come from an unlucky draw even though the player is in great shape, meaning losing is not defined as failure; however, if the player's effort or behavior was poor during the match, then it is considered a failure. Summarizing the coaches' perceptions, we see that they all intend to create a mastery-involving climate with an emphasis on maximum effort and personal development. However, the coaches also stated that you cannot ignore the fact that winning is the only thing for which you get rewarded. Based on this, tennis is perceived as a highly ego-involving sport and that, on the tennis tours, there can only be one winner every week, which makes it even more important to measure the player's development instead of looking solely at the results.

To answer our research question, we also explored how coaches structure the goal-setting process in their teams and on what they focus. When setting goals in professional tennis, emphasis should be placed on long-term goals aiming to improve skill mastery along with a specific process, performance, and outcome goals. Despite stressing the importance of setting specific goals for their players, they also highlighted that players need to work hard to achieve their goals on the court.

I don't usually set outcome goals for myself as a coach, as I find the most important thing to be true in who I am as a person and as a coach, but if the player wants to set goals, we do that. (Female Coach)

You can go far with clear goals and good planning; it also helps to reduce stress, as traveling around the world can be challenging. If you focus on personal development, the results will come, and if you do the right things over time, you will play good tennis eventually. (Male Coach)

In general, there is a strong emphasis on personal development rather than the outcome, however, they all shed light on the importance of winning at the same time. This is what makes competitive tennis complex, and according to the coaches, a key component to cope with this is for the players to make a maximum effort every day, with a strong focus on developing their skill mastery, making it possible to win matches.

The coaches highlighted the importance of having clear goals and good planning and of reducing the stress of traveling; however, they also stated that it is not wise to plan too far ahead because if their player reaches peak performance during a training period, they have to be ready to change plans and compete. This necessary flexibility highlights the complexity of planning tennis all year round, as players have to be healthy and strong enough to play good tennis, handle the pressures, and travel the world to ascend the rankings. Players must also have enough money to pay their coach. As you make a career based on your player's results as a tennis coach it can be interpreted as an ethical dilemma when it comes to planning.

The Mental Game of Tennis

Perceptions of the Mental Game of Tennis

Players need to master the proper techniques to execute their tactics and outperform their opponent, and they need to stay fit and healthy. However, according to the coaches, the mental game of tennis is one of the most important aspects to master to succeed in this sport.

They highlighted that many of the best players in the world perceive the mental game to be the deciding factor in matches. The coaches perceive the mental game to be huge in professional tennis as it consists of so many parts: the players have to cope with external distractions and stressors, try to only control the things they can control to deal with what is in front of them, and make quick decisions.

One coach claimed that it is not a mental characteristic, but as a player, you have to practice things until it settles into your game. This finding highlights the importance of hard work and dedication, but at the same time, does the coach not perceive this to be a mental characteristic, although it could be discussed whether it is a mental characteristic or not. However, the perception of tennis not being that mentally important is quite common in daily tennis practices, but at the same time we find overwhelming support of the opposite in tennis literature (Crespo & Reid, 2007; Gallwey, 2015).

The mental part becomes increasingly important, but unfortunately, we train too little on that part. We need more help from a sports psychology consultant, as we spend time on techniques and fitness, but not mental skills training, and the stress and pressure is there all the time. (Male Coach)

The mental game of tennis is one of the most important parts of tennis. I cannot stress its importance enough. In general, almost every player can learn how to play good tennis, but you also have to feel good, have the right mindset, make the right decisions, cope with setbacks, and keep going for a win. These are the characteristics that separate the best from the rest. (Female Coach)

Most of the interviewed coaches perceive tennis to be a mentally challenging sport, but claim that there is a lack of both effort and resources in this area. This finding supports prior research in which tennis coaches expressed the need for practical MST drills that could be taught to tennis players within 10–15 minutes (Gould et al., 1999). The present findings also accord with those of Soares and Harwood (2017), who found that tennis is a highly

unpredictable game with several psychological turning points and that many tools can be utilized to cope with the uncertainty.

We stress that tennis is a mentally challenging game, not only for the players but also for the coaches. Tennis coaches are not allowed to coach on court during matches and must sit in the stands, as it is strictly prohibited to coach. Any communication observed between the coach and the tennis player can lead to a warning from the umpire. This motivational climate in tennis means that players should take utmost advantage of coaching before and after matches so that they can coach themselves on the court. Therefore, no matter how tempting it might be for the coach to tell the player what to do all the time, the mental game of tennis forces the players to think for themselves when they are out on the court. The present findings suggest that by reducing feedback, coaches can help players think for themselves and practice this during tennis training. In addition all of the participants agreed that they had to be very flexible in their feedback after a match, meaning that they might even have to wait a couple of days before talking about a loss with some players.

Athlete Ownership

The participants all expressed that the players need to have ownership of their tennis, with most of them considering athlete ownership to be the most important characteristic for a professional player to succeed. According to one coach, in countries like Norway, where there are few role models due to a lack of a tennis tradition, the coach has to set the standards. However, the coaches agreed that, as a coach cannot own a player's career, it is crucial for the player to take ownership and to be their own coach out on the court. One coach presented a metaphor for the player's ownership.

Think of the player's career as a car, and in this car, the player is the driver, the coach sits in the passenger seat, and the parents pay for the gas. On the other hand, when dealing with a player that lacks ownership, it is crucial to ask good questions with video-based feedback. (Male Coach)

The coaches' perceptions regarding athlete ownership are in line with guidelines focusing on building a mastery-involving climate in tennis (Theodosiou et al., 2018; Cervelló et al., 2007; Crespo et al., 2006), and these findings might be practically valuable, as professional tennis tends to be dominated by a strong ego-involving motivational climate with an emphasis on winning. In light of this, we find it crucial for coaches at a professional level to help their players help themselves by being their own coach. To succeed as a player to be your own coach, it is important that the coach ask the right questions and provides video feedback. However, no matter what kind of effort you put in as a coach, it is always up to the player to deliver on the court. The findings relating to the participants' perceptions of tennis being mentally challenging support the findings of previous tennis literature on this theme (Harwood, 2016; Crespo et al., 2006; Gallwey, 2015).

The motivational climate in tennis: A mental game

One of the strengths of the present study is that we interviewed both female and male coaches who had experiences of both the WTA and ATP tours, which enabled us to explore whether the coaches perceived any differences between the two tours in terms of motivational climate. The findings showed that female players tend to follow more instructions and seek more approval but that they have higher discipline levels compared to men.

Women tend to ask for more technical feeding drills during practice to avoid a practice match due to the fear of losing. This usually occurs when they consider themselves out of shape, and it often leads to overthinking and performance anxiety: "My forehand does not work." "What are all the others going to think if I lose?" Contrastingly, men tend to worry less: "No worries it was just a bad day."

In order to master this area of the game, it is crucial for the players to be their own coach. (Female Coach)

We consider these findings important, as previous research on tennis and self-talk (Thibodeaux & Winsler, 2018) found that the observed self-talk was mainly negative and

rarely instructional, and they stressed that self-reports from tennis players need to be confirmed by observation. In addition, other prior findings on self-talk also show that most tennis players talk to themselves a lot, and that self-talk relates to the player's experienced emotion and the emotion they show to the outside (Fritsch et al., 2020). The present findings also suggest that it is crucial to make tennis practices real and to train players in the same state in which they will play during real matches. Considering the complexity of the motivational climate, with the coach not being allowed to coach during the game, it is also essential that the player take advantage of practices when the coach is present.

The more established the players are, the greater the emphasis placed on the tactical and mental aspects of the game, especially when working with women. In addition, it is crucial to keep it simple and not dig into too many technical details. One coach shared his experience of trying out different approaches; at the start of his career, he placed most emphasis on technique and found that the players had beautiful strokes, but they could not play during matches. He then started to put all his focus on the tactics of a game-based approach and found that the technique was too poor for the players to develop their game. While the findings of this study are in favor of a more practical tactical approach along with focus on the mental game, technique is also important because players need to play effective strokes to execute their tactics.

It is therefore essential for coaches to adapt the players' practices to the ego-involving climate that exists on the tennis tours while placing significant emphasis on making it real with simulating match play; however, coaches also need to build a mastery-involving climate that emphasizes maximum effort, personal development, skill mastery, and a focus on helping the players become their own coach.

Limitations

This study has some limitations. First, in the interviews, many of the coaches talked about issues relating to SDT (e.g., Deci & Ryan, 2000; Ryan & Deci, 2000), such as autonomy and relatedness. As there is a lack of newer studies focusing on the motivational climate in tennis and as we wanted to investigate the coach created motivational in the present

study, we examined the AGT perspective, but in future investigations, we would like to incorporate SDT elements, as these might have furthered our study. In the present study we have limited ourselves to interview Nordic professional coaches but of course it would have been interesting to include coaches' perceptions from outside the Nordic countries as well as we intend to do in future research.

Even though the interviews went smoothly using Zoom, we would have preferred to conduct them in person because it would have been easier to read the body language of the participants, and we would have avoided technical challenges. However, we do not feel that using Zoom has affected the data collected for this study. The ongoing pandemic made it possible for us to interview coaches in different countries without travelling. To avoid making this study too wide, we narrowed it down to the coaches' perceptions of the motivational climate. In the future, we would like to explore and compare the players' perceptions with those of the coaches.

Concluding Remarks

In response to the research question of the present study—"How do professional Nordic tennis coaches on the ATP and WTA tours perceive the motivational climate they create?"—the present findings show that the coaches focus on personal development and maximize the players' efforts in their practices. The coaches perceived the motivational climate on the ATP and WTA tours as a strong ego-involving climate with an overall emphasis on winning. They agreed that tennis coaches should aim to be mastery-involving in their interactions with their players and should focus on personal development and skill mastery to obtain the desired results without focusing on them directly. The present study shows that all interviewed coaches define success in tennis as personal development, skill mastery, and reaching the players' full potential. They also considered that losses do not automatically mean failure, except when players have not tried their best. The coaches in the present study claimed to work with this focus in their own tennis practices to build a coach-created motivational climate.

The present findings show that female players tend to avoid playing matches during training to save themselves from a potential loss. Match simulating game play is therefore crucial in tennis, as it only rewards the result without considering the individual performance. This is undoubtedly essential in tennis to avoid choking, to cope with pressure, and to train themselves in coping with the nervous state that occurs during tennis training by simulating real matches. Taking into consideration all the coaches' perceptions of the motivational climate and the mental game of tennis, it is clear that hard work, maximum effort, and athlete ownership stand out as crucial elements of a successful professional tennis player on the ATP and WTA tours.

Furthermore, the findings show that tennis coaches need to be flexible in their approach and should always be prepared to change plans to adapt to when their player is playing well or not. However, the present findings also underline the importance of good planning that can help reduce the players' stress incurred by travelling the world. As the mental game of tennis is perceived to be a huge part of the coach-created motivational climate, it is crucial for tennis coaches to help their players learn how to be their own coaches on the tennis court. This can be done by asking questions that force them to think for themselves. We also found that even though tennis is perceived to be a very mentally challenging sport, surprisingly few resources are applied to this area of the sport. The present study gives valuable insights into the perceptions of professional Nordic tennis coaches' on the coach-created motivational climate in professional tennis. The motivational climate is perceived to be ego-involving, with a strong emphasis on winning; however, to succeed, coaches should adopt a mastery-involving approach and focus on the player's personal development, ensuring maximum effort and building strong athlete ownership.

References

- Abrahamsen, F. E., Roberts, G. C., & Pensgaard, A. M. (2008). Achievement goals and gender effects on multidimensional anxiety in national elite sports. *Psychology of Sport and Exercise, 9*, 449–464.
- Ames, C. (1992a). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*(3), 261–271. <https://doi.org/10.1037/0022-0663.84.3.261>
- Ames, C. (1992b). Achievement goals and adaptive motivational patterns: The role of the environment. In G. C. Roberts (Ed.), *Motivation in Sport and Exercise* (pp. 161–176). Human Kinetics.
- Aryanto, D. B., & Larasati, A. (2020). Factors influencing mental toughness. In the 5th ASEAN Conference on Psychology, Counselling, and Humanities (ACPCH 2019) (pp. 307–309). AtlantisPress. <https://doi.org/10.2991/assehr.k.200120.066>
- Atkinson, R. (2007). The life story interview as a bridge in narrative inquiry. In D. J. Clandinin (Ed.), *Handbook of narrative inquiry* (pp. 224–245). Sage.
- Boudreault, V., Trottier, C., & Provencher, M. D. (2018). Investigation of the self-talk of elite junior tennis players in a competitive setting. *International Journal of Sport Psychology, 9*, 386–340. <https://doi.org/10.7352/IJSP.2018.49.386>
- Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: A research note. *Qualitative Research, 8*.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper (Ed.), *APA handbook of research methods in psychology. (Vol. 2: Research designs)* (pp. 57–71). APA Books.
- Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. Sage.
- Cervelló, E., Santos-Rosa, F. J., Jiménez, R., Nerea, A., & Garcia, T. (2002). Motivación y ansiedad en jugadores de tenis. *Rev. Motricidad, 9*, 141–161.
- Cervelló, E., Santos-Rosa, F. J., García Calvo, T., Jiménez, R. & Iglesias, D. (2007). Young tennis players' competitive task involvement and performance: The role of goal

- orientations, contextual motivational climate, and coach-initiated motivational climate. *Journal of Applied Sport Psychology*, *19*(3), 304–321.
<https://doi.org/10.1080/10413200701329134>
- Clarke, V., Braun, V., & Hayfield, N. (2014). Thematic analysis. In J. A. Smith (Ed.), *Qualitative psychology. A practical guide to research methods* (3rd ed., pp. 222–248). Sage.
- Crespo, M., Reid, M., & Quinn, A. (2006). *Tennis psychology*. ITF Ltd.
- Crespo, M., & Reid, M. (2007). Motivation in tennis. *British Journal of Sports Medicine*, *41*(11), 769–772. <https://doi.org/10.1136/bjism.2007.036285>
- Deci, E., & Ryan, R. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*.
https://doi.org/10.1207/s15327965pli1104_01
- Duda, J. L. (2001). The implications of the motivational climate in tennis. In M. Crespo, M. Reid, & D. Miley (Eds.), *Top tennis coaching* (pp. 55–58). ITF Ltd.
- Dweck, C. S. (1999). *Self-theories and goals: Their role in motivation, personality, and development*. Taylor & Francis.
- Esposito, G., Ceruso, R., D'Elia, F., & D'Isanto, T. (2020). Performance anxiety: How to play reliable and rational tennis by reducing mental pressure. *Journal of Human Sport and Exercise*, *15*(2), 213–221. <https://doi.org/10.14198/jhse.2020.15.Proc2.12>
- Fritsch, J., Jekauc, D., Elsborg, P., Latinjak, A. T., Reichert, M., & Hatzigeorgiadis, A. (2020). Self-talk and emotions in tennis players during competitive matches. *Journal of Applied Sport Psychology*. <https://doi.org/10.1080/10413200.2020.1821406>
- Gallwey, T. W. (2015). *The inner game of tennis. The ultimate guide to the mental side of peak performance*. Pan Books.
- Gernigon, C., d'Arripe-Longueville, F., Delignières, D., & Ninot, G. (2004). A dynamical systems perspective on goal involvement states in sport. *Journal of Sport & Exercise Psychology*, *26*(4), 572–596.

- Gould, D., Medbery, R., Damarjian, N., & Lauer, L. (1999). A survey of mental skills training knowledge, opinions, and practices of junior tennis coaches. *Journal of Applied Sport Psychology, 11*(1), 28–50. <https://doi.org/10.1080/10413209908402949>
- Gubrium, J., & Holstein, J. (2002). *Handbook of interview research*. Sage.
- Guillot, A., Desliens, S., Rouyer, C., & Rogowski, I. (2013). Motor imagery and tennis serve performance: The external focus efficacy. *Journal of Sports Science & Medicine, 12*(2), 332–338.
- Harwood, C. (2016). Twenty years' experience working within professional tennis. In R. J. Schinke & D. Hackfort (Eds.), *Psychology in professional sports and the performing arts: Challenges and strategies*. Routledge.
- Harwood, C., & Biddle, S. (2002). The application of achievement goal theory in youth sport. In I. Coackerill (Ed.), *Solutions in sport psychology* (pp. 58–73). Thompson Learning.
- Harwood, C. G., Caglar, E., Thrower, S. N., & Smith, J. M. J. (2019). Development and validation of the parent-initiated motivational climate in individual sport competition questionnaire. *Frontiers in Psychology, 10*, 128. <https://doi.org/10.3389/fpsyg.2019.00128>
- Harwood, C. G., Keegan, R. J., Smith, J. M., & Raine, A. S. (2015). A systematic review of the intrapersonal correlates of motivational climate perceptions in sport and physical activity. *Psychology of Sport and Exercise, 18*, 9–25. <https://doi.org/10.1016/j.psychsport.2014.11.005>
- Harwood, C., & Swain, A. B. (2001). The development and activation of achievement goals in tennis: I. understanding the underlying factors. *The Sport Psychologist, 15*(3), 319–341.
- Harwood, C., & Swain, A. B. (2002). The development and activation of achievement goals within tennis: II. A player, parent, and coach intervention. *The Sport Psychologist, 16*(2), 111–137.
- Kavussanu, M., & Roberts, G. C. (1996). Motivation in physical activity contexts: The relationship of perceived motivational climate to intrinsic motivation and self-efficacy.

- Journal of Sport and Exercise Psychology*, 18, 264–280.
<https://doi.org/10.1123/jsep.18.3.264>
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing*. Sage.
- Mathers, J. F. (2017). Professional tennis on the ATP tour: A case study of mental skills support. *The Psychology of Sport and Exercise*, 8(1), 25–46.
<https://doi.org/10.1123/tsp.2016-0012>
- Morse, J. M. (1995). The significance of saturation. *Qualitative Health Research*, 5, 147–149.
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91(3), 328–346.
<https://doi.org/10.1037/0033-295X.91.3.328>
- Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Harvard University Press.
- Patton, M. Q. (2002). *Qualitative research & evaluation methods (3rd ed.)*. Sage.
- Roberts, G. C. (2012). Motivation in sport and exercise from an achievement goal theory perspective: After 30 years, where are we? In G. C. Roberts & D. C. Treasure (Eds.), *Advances in motivation in sport and exercise* (3rd ed., pp. 5–58). Human Kinetics, Inc.
- Roberts, G. C., Treasure, D. C., & Kavassanu, M. (1997). Motivation in physical activity contexts: An achievement goal perspective. In P. Pintrich & M. Maehr (Eds.), *Advances in motivation and achievement (Vol. 10)* (pp. 413–447). JAI Press.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54–67.
- Sandelowski, M. (1995). Sample size in qualitative research. *Research in Nursing & Health*, 18, 179–183. <https://doi.org/10.1002/nur.4770180211>
- Soares, A., & Harwood, C. (2017). The psychology of turning points in tennis. *ITF Coaching and Sport Science Review*, 71(25), 26–27. <https://www.manlylawn.com.au/wp-content/uploads/2018/05/ITF-PsychologyTurningPoints.pdf>
- Sparkes, A. C., & Smith, B. (2014). *Qualitative research methods in sport, exercise and health. From process to product*. Oxon.

- Thagaard, T. (2018). *Systematikk og innlevelse: En innføring i kvalitative metoder (5th ed.)*. Fagbokforlaget.
- Theodosiou, A. E., Mavvidis, A., & Tsigilis, N. (2018). Dealing with stress during tennis competition. The association of approach- and avoidance-coping with metacognition and achievement goal theory perspectives. *Journal of Physical Education and Sport*, *18*(4), 2454–2465. <https://doi.org/10.7752/jpes.2018.04368>
- Thibodeaux, J., & Winsler, A. (2018). What do youth tennis athletes say to themselves? Observed and self-reported self-talk on the court. *Psychology of Sport and Exercise* *38*, 126–136. <https://doi.org/10.1016/j.psychsport.2018.06.006>
- Wolcott, H. (1995). *The art of fieldwork*. AltaMira Press.
- Yoo, J. (2003). Motivational climate and perceived competence in anxiety and tennis performance. *Perceptual and Motor Skills*, *96*, 403–413.

Appendix A

Frank Abrahamsen
Institutt for idrett og samfunnsvitenskap

OSLO 21. oktober 2020

Søknad 167 – 291020 – Coach skapande motivationsklimat i professionell tennis från coachernes perspektiv

Vi viser til søknad, prosjektbeskrivelse, informasjonsskriv, innsendt melding til NSD med intervjuguide.

I henhold til retningslinjer for behandling av søknad til etisk komite for idrettsvitenskapelig forskning på mennesker, har leder av komiteen på fullmakt fra komiteen konkludert med.

Vurdering

Intervjuguiden er relativt omfattende. Komiteen anbefaler at prosjektleder vurderer omfanget av intervjuguiden i forhold til varigheten på intervjuet (ca 45 minutter) som det opplyses om i informasjonsskrivet.

Vedtak

På bakgrunn av forelagte dokumentasjon finner komiteen at prosjektet er forsvarlig og at det kan gjennomføres innenfor rammene av anerkjente etiske forskningsetiske normer nedfelt i NIHs retningslinjer. Til vedtaket har komiteen lagt følgende forutsetning til grunn:

- *Vilkår fra NSD følges*

Komiteen forutsetter videre at prosjektet gjennomføres på en forsvarlig måte i tråd med de til enhver tid gjeldende tiltak ifbm Covid-19 pandemien.

Komiteen gjør oppmerksom på at vedtaket er avgrenset i tråd med fremlagte dokumentasjon. Dersom det gjøres vesentlige endringer i prosjektet som kan ha betydning for deltakernes helse og sikkerhet, skal dette legges fram for komiteen før eventuelle endringer kan iverksettes.

Med vennlig hilsen


Professor Sigmund Loland

NIH NORGES
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Appendix B

Information letter

Vill du delta i forskningsprosjektet

”Coach skapande motivationsklimat i professionell tennis från coachernas perspektiv”?

Det här är en fråga till dig om att delta i ett forskningsprosjekt där syftet är att undersöka nordiska topp coaches uppfattningar kring det motivationsklimatet som de skapar för sina spelare. I det här dokumentet ger vi dig information om målen för projektet och vad det att delta vill innebära för dig.

Syfte

Målet med det här forskningsprosjektet är att intervju nordiska tennis coacher och undersöka deras uppfattningar kring det coach skapande motivationsklimatet som de skapar för sina professionella tennisspelare. Omfanget per intervju räknar vi med blir ca 45 min.

Syftet är att ta reda på om det finns några gemensamma faktorer i uppfattningarna från coacherna och eventuellt några skillnader i hur de designar motivationsklimatet. Förhoppningsvis kan resultatet från studien ge coacher, spelare, sport chefer, nationella tennisförbund, föräldrar och idrottspsykologiska rådgivare värdefull information vad gäller nordiska coaches uppfattningar kring motivationsklimatet i professionell tennis.

Detta forskningsprosjekt är Masterprosjektet (master oppgaven) till studenten Erik Gustav Thorelli som går sista året på sin master grad i psykologi och coaching vid Norges idrettshøgskole i Oslo, Norge.

Vem är ansvarig for forskningsprosjektet?

Norges idrettshøgskole / Institutt for idrett og samfunnsvitenskap.

Frank Eirik Abrahamsen Førsteamanuensis.

Varför får du förfrågan om att delta?

Kriterien för att vara med som deltagare i studien är att man som nordisk tennis coach antingen har fått fram en spelare manlig eller kvinnlig som nått minst topp 100 på ATP/WTA touren, eller att man är coach för en spelare som är minst topp 100 idag. Denna förfrågan går ut till ca 10st coacher och vår förhoppning är att samtliga kan och önskar att delta.

Vad innebär det för dig att delta?

Om du väljer att delta i projektet, innebär det att du ställer upp på en intervju som vill ta ca. 45 minuter. Intervjun kommer att belysa frågor kring motivationklimatet i tennis och frågor kring dina erfarenheter och attityder som tennis coach kommer att vara fokus för intervjun. Intervjuerna kommer att tas upp på band och sparas som ljudfil på externt minnekort som låses in på vårt institut för idrott och samfunnsvetenskap på Norges Idrettshøgskole. Ljudfilerna blir transkiberade av mig som student och forskare och därefter sänder jag ut mail till dig med en uppsumering för chans att bekräfta de centrala fynden från intervjun. Intervjuerna kommer genomföras via Zoom digitalt eller med minst 1 m avstånd i avskilt rum.

Det är frivilligt att delta

Det er frivilligt att delta i projektet. Om du väljer att delta, kan du när som helst dra dig ur projektet och ta ditt samtycke tillbaka utan att uppges någon grund till det. Alla dina personuppgifter blir då borttagna. Det får inte några negativa konsekvenser förr dig om du inte vill delta eller senere väljer att dra dig ur.

Din personvern – hur vi uppevarar och använder dina personuppgifter

Vi kommer bara använda uppgifterna om dig till det vi har nämnt i detta dokumentet. Vi behandlar uppgifterna konfidentiellt og i samsvar med personvernregelverket. Det är bara student och vägledare som kommer ha tillgang till uppgifterna. Ljudinspelningarna från intervjuerna blir märkta med nummer istället för med namn. I publikationen så kommer enbart dina svar kring erfarenheter på temat presenteras inte detaljer som kan spåras till dig som person.

Vad sker med dina uppgifter när vi avslutar forskningsprojektet?

Datan uppevaras utan personuppgifter (anonymisering), projektet räknas vara senast färdigt 30/9 2021.

Dina rättigheter

Vi behandlar opplysninger om deg basert på ditt samtykke att deltaga i projektet.

På oppdrag från *Norges idrettshøgskole / Institutt for idrett og samfunnvitenskap*.

har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Vill du veta mer?

Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

Norges idrettshøgskole / Institutt for idrett og samfunnvitenskap. Prosjekt ansvarig: Frank Eirik Abrahamsen. frankea@nih.no. Student: Erik Gustav Thorelli. erik@thorelli.no.

- Vårt personvernombud: *NIH's personvernombud, kontakt e-post: personvernombud@nih.no*

Med vennlig hilsen

Prosjektansvarlig (veileder)
Frank Eirik Abrahamsen

Student
Erik Gustav Thorelli



Appendix C

NSD sin vurdering

Prosjektittel

Coach skapande motivationsklimat i professionell tennis från coachernas perspektiv

Referansenummer

340581

Registrert

13.10.2020 av Erik Gustav Thorelli - erikgt@student.nih.no

Behandlingsansvarlig institusjon

Norges idrettshøgskole / Institutt for idrett og samfunnsvitenskap

Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)

Frank Eirik Abrahamsen, frankea@nih.no, tlf: 94188982

Type prosjekt

Studentprosjekt, masterstudium

Kontaktinformasjon, student

Erik Gustav Thorelli, thorelli@hotmail.com, tlf: 45916429

Prosjektperiode

19.10.2020 - 30.09.2021

Status

29.10.2020 - Vurdert

Vurdering (1)

29.10.2020 - Vurdert

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den 29.10.20, samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

DEL PROSJEKTET MED PROSJEKTANSVARLIG Det er obligatorisk for studenter å dele meldeskjemaet med prosjektansvarlig (veileder). Det gjøres ved å trykke på “Del prosjekt” i meldeskjemaet.

MELD VESENTLIGE ENDRINGER Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde:

https://nsd.no/personvernombud/meld_prosjekt/meld_endringer.html Du må vente på svar fra NSD før endringen gjennomføres.

TYPE OPPLYSNINGER OG VARIGHET Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 30.09.21. **LOVLIG GRUNNLAG** Prosjektet vil innhente

samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake. Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om: - lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen - formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke behandles til nye, uforenlige formål - dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet - lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet DE

REGISTRERTES RETTIGHETER Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: åpenhet (art. 12), informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), underretning (art. 19), dataportabilitet (art. 20). NSD vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13. Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32). Zoom er databehandler i prosjektet. NSD legger til grunn at behandlingen oppfyller kravene til bruk av databehandler, jf. art 28 og 29. For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med behandlingsansvarlig institusjon.

OPPFØLGING AV PROSJEKTET NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet. Lykke til med prosjektet! Tlf.

Personverntjenester: 55 58 21 17 (tast 1)

Appendix D

Interview guide Master thesis Erik Gustav Thorelli

Warm up questions

How would your best friend describe you?

How would your worst enemy describe you?

Can you tell me how you became a tennis coach?

How does a typical work day look like for you?

Do you have a coaching philosophy?

What is important for you in order to enjoy your work?

Do you set goals for yourself and for your players?

The mental game of tennis

How do you perceive the mental game of tennis?

How do you cope with failure?

What is the first thing you ask / say to your player after a win/loss?

How to play your best tennis during a competition?

How do you structure your training sessions?

Would you say that you are a technical or tactical oriented coach?

Do you communicate with your player during a match?

How do you work with decision making with the player? Do you let him or her engage in the decision making?

Motivational climate in tennis

How do you define success in tennis?

How do you evaluate your player's performance?

How important would you say the «mental part» is in tennis?

Is it important to help the player be his own coach on court?

Follow up question: How to do this?

Is it important to win during training?

Is it important to win matches?

Is it important to focus on maximum effort and personal development?

Follow up question: How to help the player with this?

How do you help your player to feel mastery?

If you had to pick one thing for the player to focus on during matches and training what would it be?

How important is it for the player to feel «mastery» in his game? As a coach how do you view mistakes?

How to cope with ranking points and match wins?

How to cope with no on court coaching in tennis?

Is it important to have routines on court?

Should the player perceive that he is in charge of his own tennis?

How do you as a team cope with pressure?

If your player wins but the effort was poor, how do you respond? If your player loses but the effort was outstanding, how do you respond?

Do you agree that the result itself in tennis says very little about one player's performance?

Follow up question: How to deal with this?

As tennis is a brutal game regarding ranking points and you need to deliver all year around is there something in particular you need to focus on?

Is it important to think more as «a team» in tennis, or is it not that important?

Closing questions

Do you feel satisfied with the interview?

Is there something else you would like to address?

Is there some question that you miss?