

Perspective

Sport Psychology 2.0

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Abstract

The field of sports psychology has undergone a significant transformation in recent years, largely influenced by global changes caused by the pandemic. One notable development is the evolution of e-sports psychology from an emergency solution to a permanent and integral component of a specialist's repertoire. The objective of this paper is to provide a concise overview of the contemporary provision of psychological services through online consultations in competitive sport. The advent of global digitalisation has effectively eliminated geographical barriers, ensuring the crucial continuity of psychological care irrespective of an athlete's mobility. Concurrently, it has introduced a novel, specific dynamic of interaction. The discussion highlighted that the elimination of logistical constraints and the lowering of the threshold for cooperation render digital solutions a tool with unprecedented potential. This in turn allows for more effective outreach to a wide audience. It was noted that the virtual environment may have certain limitations regarding non-verbal cues. However, it also provides a secure space for interaction that can greatly surpass the potential of traditional face-to-face consultations. The proposal is to move away



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from perceiving e-psychology methods in sport solely as an alternative. It was concluded that technology-mediated interventions open up new perspectives of accessibility and flexibility, often constituting the most optimal form of support, best suited to the fast pace and dynamics of an athlete's functioning in the realities of modern sport.

Keywords

e-consultations; e-mental training; e-psychological support; e-psychology; sports psychology

1. Introduction

The utilisation of online platforms in the delivery of sports psychology services has witnessed a surge in popularity, thus becoming a customary component of specialists' repertoires [1]. Sports Psychology 2.0 represents the current stage of development in the field, in which technological solutions support the analysis of cognitive mechanisms and the neuroscientific foundations of athletic success. It differs from the traditional, pre-technological approach (Sports Psychology 1.0) in its incorporation of digital tools and the shift of part of the collaborative process to a virtual environment [2]. From this perspective, e-psychology constitutes an integral component of sports psychology 2.0. It is defined as the provision of psychological services using telecommunications technologies [3]. The widespread adoption of the contemporary e-psychology model was accelerated by the experiences of the pandemic, when sanitary restrictions compelled psychologists to transition their office and institutional practice to the virtual domain [4]. This form of forced adaptation [5] has evolved into a sustainable model of cooperation, paving the way for overcoming geographical barriers [6, 7] and ensuring continuity of care [8]. However, the perceived sustainability of this model often depends on the user's access to reliable technological infrastructure and a stable internet connection [9].

Nevertheless, the transition of activities to the online domain has engendered a broad spectrum of consequences, encompassing both favorable and unfavorable outcomes. This model exerts a profound influence on numerous aspects of work, thereby reshaping its economic and logistical framework [10]. The key benefits include lowering the threshold for cooperation and reducing costs [11], as well as the ability to use the athlete's safe home environment [6]. Conversely, this specificity engenders the risk of technical disruptions [12] and challenges in the domain of non-verbal communication [13]. Furthermore, difficulties in conducting team consultations [14] and the specific nature of work in dynamic competition conditions, where situational factors may hinder remote intervention, remain significant limitations [15, 16].

Although the number of publications on remote psychological interventions is steadily growing, their core still draws primarily on experiences and research findings from the field of clinical psychology [5, 12, 13]. Consequently, the conclusions drawn cannot always be directly applied to the specific, highly performance-oriented environment of sports psychology. The available literature on the benefits and limitations of online consultations in a sports context remains relatively scarce, and is additionally scattered and methodologically heterogeneous [17]. A particular research gap, however, concerns the issue of remote work with entire sports teams,

where complex group dynamics play a key role. This area, despite its practical significance, remains largely unexplored in the scientific literature.

Consequently, contemporary education and psychological practice must address the question of the effectiveness of these solutions in a broader context. In response to these challenges, the present article aims to present the authors' perspective on online consultations in competitive sports. An attempt was made to verify the extent to which technology determines the quality of cooperation between a sports psychologist and an athlete. Exploring this area is essential so that sports psychologists can consciously and safely tailor their methods to the specific needs of each athlete.

The hypothesis was put forward that online collaboration constitutes a valuable and promising extension of traditional support methods. This assumption is based on the demonstrated feasibility and comparability of remote interventions, which have proven effective in overcoming barriers to accessing support [18]. At the same time, athletes were required to adopt new training methods that accounted for safety and social distancing requirements [19, 20]. This process necessitated the use of digital tools, which in turn may have facilitated a transition toward a more integrated model of remote support. As a result, the utilization of online platforms for professional and training purposes swiftly became the prevailing norm. These competencies became an integral part of their daily lives [17]. This development resulted in a significant erosion of existing barriers, both technological and communicative. Accordingly, online consultations have become increasingly mainstream, serving as an integral component of a sports psychologist's repertoire, rather than being regarded as a mere crisis intervention measure. This has led to the emergence of a new paradigm in sports psychology, often referred to as 2.0 [2].

2. Potential and Limitations

The contemporary system of patient and athlete care is confronted with structural challenges, as evidenced by media reports on the current shortage of specialists in specific fields [21]. This issue is especially salient in the context of the rapidly evolving domain of sports psychology. The contemporary competency profile of a sports psychologist is intricate and necessitates the integration of knowledge from multiple domains [22]. The foundation of their work must be a solid psychological education, combined with in-depth knowledge of the specifics and unique requirements of a given sport. It is imperative to emphasize the significance of high technical competence, which is evidenced by the adeptness to accurately select diagnostic instruments and the efficacious implementation of suitable psychological interventions [23].

The importance of highly developed teamwork skills in the context of sports psychology is also emphasised. It is expected that they will display effective cooperation and seamless communication within the coaching staff. This signifies the capacity to amalgamate psychological activities with the viewpoints of other experts, including physiologists, sports medicine physicians, physiotherapists, osteopaths, dietitians and physical trainers [24]. The fulfillment of these criteria is a prerequisite for the provision of high-quality services, which are reflected in the positive course of multifaceted cooperation between the sports psychologist and the athlete.

A sports psychologist must possess a comprehensive understanding of general psychology and physical culture sciences, and competitive or coaching experience is also advantageous. A solid sports background provides the psychologist with knowledge of clinical, cognitive, developmental,

and social mechanisms [25]. It is imperative that experts in this field do not restrict their analysis to the sporting context of the athlete; rather, they should continually expand their perspective to encompass the social and practical context, which exerts influence on the holistic functioning of the athlete [26]. The elevated and multifaceted requirements inherent to this field naturally result in a limited pool of certified specialists who are able to function effectively within the specific sports environment.

The fundamental principle of psychology 2.0 is remote intervention, a practice that liberates clients from the constraints imposed by geographical distance, thereby circumventing the limitations associated with commuting [6, 7]. This is of particular significance in the context of working with competitive athletes, whose lifestyle is characterised by frequent changes and mobility. It is evident that competitors allocate a substantial proportion of the season to away periods, characterised by participation in training camps and frequent travel for the purpose of competing. Such an irregular schedule and the constant need to travel significantly hinder the use of traditional, stationary forms of psychological support [27]. Irrespective of the athlete's location, a sports psychologist is able to ensure continuity of care [8] and immediate intervention before and after the athlete's performance [28].

The field of sports psychology enables athletes to make informed choices about where to hold their training sessions, allowing them to utilize spaces that they fully control and adapt to their specific needs. This seemingly simple benefit is deeply rooted in the concept of place attachment [29]. This theory suggests that forming a positive emotional bond with a location is equivalent to establishing a secure attachment pattern [30]. In the context of elite sports, this phenomenon is empirically linked to territoriality, as being on one's home turf triggers a protective biological response characterized by significantly lower pre-competition cortisol levels and reduced somatic anxiety compared to away venues [31, 32]. Furthermore, the home environment functions as a psychological modulator, as away settings tend to amplify the negative impact of anxiety on self-confidence. In contrast, personal space helps maintain the athlete's mental balance [33]. The guarantee of complete privacy provided by one's own space also fosters deeper self-reflection and openness [34]. However, a comprehensive critical synthesis must also take into account athletic identity, considering that while home provides safety, it may lack high-performance sensory stimuli, such as specific auditory or tactile cues that reinforce a competitive mindset in professional training facilities [35]. Consequently, online consultations allow the athlete to build upon an existing, secure foundation, which facilitates greater candor and maintains the integrity of the support process.

This sense of security fosters optimal conditions for using online tools for self-improvement, such as the Post-Event Reflection (PER) tool. This solution enables athletes to systematically evaluate their performance at a time and in an environment of their choosing [36], thereby directly supporting the development of self-awareness. A higher level of insight into one's own psychophysical processes has been shown to translate into more effective improvement of discipline-specific skills and more effective regulation of emotions and arousal in competition conditions [37]. Concurrently, the PER instrument produces personalized feedback, which forms the foundation for effective cooperation during the subsequent consultation with a sports psychologist [38].

It is worth noting that online consultations significantly facilitate access to psychological help, as they substantially lower the barrier to entry for individuals who are reluctant to engage in

traditional forms of contact. However, it should be emphasized that this phenomenon is not universal, as it is influenced by individual characteristics and cultural factors [39]. This form of interaction guarantees a high degree of confidentiality and discretion, which for many patients is a prerequisite for engaging in dialogue [6]. In accordance with the principles of humanistic psychology and the Client-Centered Practice paradigm, key importance is attached to recognizing the individual's subjectivity and agency [39]. In the digital space, this autonomy manifests itself primarily in the ability to independently choose a safe environment. However, the specific nature of the sports environment, including intensive training camps, often limits this freedom. An athlete may be deprived of privacy due to the constant presence of third parties [40]. This form of collaboration creates the potential for joint efforts and the development of a new perspective on athletic engagement [6]. In the process of virtual consultations, building trust in the initial stage determines its durability in the further course of the collaboration [41]. Trust is defined as the foundation of the therapeutic alliance, which is considered a prerequisite for the effectiveness of the change process. The transformation process itself is the result of active cooperation between the client and the specialist in pursuit of the established goals. As a result of this relationship, the athlete's functioning improves, as evidenced by both mental well-being and performance outcomes [42].

The technical infrastructure and technology utilized for e-consultations frequently incorporate built-in audio or video recording capabilities. In certain, strictly defined circumstances, the ability to archive the course of a session is sometimes seen as a tool used solely to optimize the process of supporting a given athlete [17]. The recorded material can provide the specialist with a valuable basis for retrospective analysis of the dynamics of changes occurring in the athlete, or for monitoring the effectiveness of the interventions implemented. Such recordings can also be used for supervisory consultation, with the aim of improving the quality of assistance provided to the client in question [43]. However, it should be categorically emphasized that the possible use of this option is subject to the absolute necessity of complying with the highest ethical standards, where obtaining the client's informed consent with full transparency of the procedure is a prerequisite.

The utilisation of remote consultations in the domain of sports psychology is further substantiated by economic considerations, which represent a pivotal argument in favour of this approach. Online interventions are defined by Online Positive Psychology Interventions (OPPI) as interventions that are theoretically low-cost [11]. In practice, this model has been shown to result in a significant reduction, or even complete elimination, of the logistical costs associated with the physical presence of a specialist at competitions. Such costs may include travel, accommodation, and subsistence expenses. In addition to the immediate financial benefits, remote support is regarded as a solution that is distinguished by its high operational availability and considerable operational flexibility [12]. This finding demonstrates that e-psychological services can be readily implemented and adapted to current needs without incurring significant infrastructure costs. Such scalability facilitates the optimization of the specialist's schedule and the reduction of fixed costs [8]. Consequently, this model eliminates substantial financial obstacles, rendering it accessible to athletes and organizations with constrained budgets. It is worth noting, however, that the low-cost paradigm of this model often overlooks the actual expenses incurred by the user. Maintaining advanced computer equipment and a high-performance internet connection is necessary to ensure the professional quality of the consultation [9]. These technological requirements generate

operating costs that can act as a barrier to accessibility, particularly in youth sports or less commercialized disciplines.

It is imperative to acknowledge the constraints inherent in conducting consultations remotely, particularly the substantial diminution of one's field of visual perception. During online meetings, the specialist's perception is typically constrained to observing the athlete's facial expressions, thereby excluding the analysis of their full body posture. This results in a lack of access to crucial diagnostic information for the specialist, thereby hindering a comprehensive interpretation of non-verbal signals such as posture, gestures, or muscle tension [12]. This is of pivotal significance given that non-verbal communication frequently constitutes a more significant and reliable source of information regarding the athlete in comparison to verbal communication. Non-verbal messages serve to complement and reinforce verbal messages, thereby rendering them more intelligible [44]. In this sense, the presence of visual limitations may hinder the psychologist from perceiving that a particular topic is exerting stress on the athlete. The observation of muscle tone and posture is an important element, because it provides key information that is not available during an online consultation. Furthermore, the relationship becomes characterized by a lack of sensory communication [13], which necessitates the implementation of specific compensatory techniques. This is due to the fact that microphones and audio compression algorithms have a tendency to flatten the voice, thereby depriving it of its nuances. Consequently, the specialist is unable to discern subtle vocal tremors, respiratory depth, or quiet sighs, which frequently serve as non-verbal cues indicative of anxiety or resignation. To mitigate these limitations, practitioners often focus on paralinguistic cues of arousal and affective intensity, which serve as the primary compensatory channel for assessing an athlete's authentic emotional state. Such auditory markers allow specialists to compensate for visual limitations and maintain diagnostic reliability in a virtual environment [45]. Nevertheless, the process of translating nonverbal experiences into verbal descriptions can result in the phenomenon of verbal masking, leading to potential distortion of the original sensory representations. Maintaining a balance between active questioning and preserving the athlete's intuitive sensory experience is therefore essential to avoid compromising the accuracy of the therapeutic process [46].

A further significant limitation pertains to the establishment of a particular emotional distance, consequent to the absence of physical proximity [12]. The phenomenon of emotional disruption is the natural emotional adjustment that occurs during interactions in the same room. This has a detrimental effect on the specialist's ability to intuitively read and reflect subtle changes in the athlete's affective state. Consequently, the therapeutic relationship may be perceived by both parties as more superficial, lacking deeper emotional closeness. This phenomenon can impede the development of trust, which is a fundamental component of an effective therapeutic alliance [47, 48].

At the same time, empirical evidence suggests that the inclusion of online components does not inherently negatively affect the quality of the therapeutic alliance. Research indicates that both athletes and specialists often report satisfaction with the bond formed that is comparable to that observed in traditional face-to-face settings. These findings suggest that the digital medium does not preclude the possibility of developing a strong and effective professional relationship [49].

It is evident that technical issues continue to present a significant challenge. Technological deficits during data transmission can significantly disrupt the fluidity and effectiveness of

communication between the specialist and the athlete. In extreme cases, these failures can result in a complete loss of connection, leading to an unplanned interruption of the therapy session. The impeded exchange of information and the abrupt termination of the meeting pose a serious challenge to maintaining the framework and effectiveness of the psychological support process [14]. These problems encompass a broad spectrum of technological and environmental disruptions. The most prevalent of these issues stem from the instability of the internet connection, manifesting in the form of transmission delays, sound distortion, and even sudden connection interruptions or image freezing. This has the effect of reducing the fluidity of the conversation and disrupting the therapeutic rhythm. In addition, poor lighting in the room on the athlete's or specialist's side makes it difficult to observe properly [5].

It is also significant that during sporting competitions there are situational factors that cause anxiety and stress in athletes [15, 16]. The aforementioned determinants encompass the event's significance. It is noted that there is a direct correlation between stress levels and competition in sports. The presence of certain observers, such as sports recruiters or individuals who hold significant influence over the athlete, has been shown to induce considerable anxiety. Another identified situational factor is expectations, understood as maladaptive pressure resulting from high standards imposed by the environment. This pressure can overwhelm the individual, with the potential to negatively affect their ability to concentrate or to function at a suboptimal level of arousal. This classification is complemented by uncertainty based on the mechanism: the greater the uncertainty about a given event, the greater the anxiety experienced by athletes [15]. The issue of audience presence is also raised, as it is a key factor in determining the effectiveness of task performance, influencing results in both individual and team sports [50]. A sports psychologist who operates exclusively online cannot directly observe how these factors affect the athlete in real time. This significantly hinders the collection of complete diagnostic data and the implementation of immediate crisis intervention.

Furthermore, conducting team consultations online is subject to specific limitations and is not always feasible. This is a considerable challenge, given the documented effectiveness of psychological team support. Such support has been shown to play a key role in improving sports performance, injury prevention and rehabilitation processes, as well as in improving coaching skills [51]. The effective implementation of such activities in a virtual environment is contingent upon the cohesion of the group of athletes. In the event of deficits in group homogeneity, there is a risk of weakening its internal cohesion, which in turn may limit the specialist's ability to adequately assess the diverse needs of all team members [52].

3. Discussion

The observed evolution of sports psychology calls for a fundamental redefinition of the role of technology in competitive sports. As the existing literature on the subject indicates, remote support has often been positioned as a form of forced adaptation to crisis conditions, such as the SARS-CoV-2 pandemic [4, 5]. However, from the perspective of contemporary practice, treating these solutions solely as emergency measures does not fully reflect the current potential of this method. This transition points to a model defined as Sports Psychology 2.0, in which digital tools serve as integral components supporting the analysis of cognitive mechanisms and the neuroscientific foundations of athletic success [2]. In this context, online consultations refer to the

provision of psychological services using telecommunications technology [3]. This format has evolved into a strategic tool ensuring continuity of care despite the high mobility of elite athletes [10]. Although this model offers a valuable alternative to traditional in-office contact by minimizing interruptions in the process, its effectiveness is not universal. It depends largely on individual differences and specific boundary conditions. The success of remote collaboration requires the athlete to maintain a technologically stable and private environment. This is often difficult due to the specific nature of the sports environment, including intensive training camps, where the athlete may lack privacy due to the constant presence of third parties [40].

A review of research reports reveals a clear divergence of opinion regarding the sensory aspects of virtual contact. The dominant skeptical perspective focuses on the sensory poverty of the digital environment, which drastically limits access to key nonverbal cues, such as body language and microexpressions [12, 13]. To mitigate these limitations, practitioners often focus on paralinguistic signals of arousal and affective intensity, using auditory markers as the primary compensatory channel for assessing an athlete's authentic emotional state [45]. However, a significant challenge remains the risk of verbal masking, in which translating nonverbal experiences into verbal descriptions can distort the original sensory representations [46]. Maintaining a balance between active questioning and preserving the athlete's intuitive sensory experience is therefore essential for ensuring diagnostic reliability in virtual settings.

The unique benefits of remote interventions are often associated with democratizing access to professional support. Although virtual psychology eliminates geographical barriers and offers cost-effective solutions [6, 7, 11], this potential for equity must be assessed within a broader socioeconomic context. The low-cost paradigm often overlooks actual operational expenses, such as the requirement for advanced computer equipment and a high-speed internet connection, which are essential for ensuring professional-quality consultations [9]. These technological requirements generate costs that can act as a barrier to accessibility, particularly in youth sports or less commercialized disciplines. Consequently, the democratizing effect of digital tools is not absolute and remains influenced by socioeconomic characteristics and environmental resources [39].

This picture is complemented by the concept of place attachment and its biological implications [29]. This theory suggests that forming a positive emotional bond with a location is equivalent to establishing a secure attachment pattern [30]. In elite sports, this phenomenon is linked to territoriality, as being on one's home turf triggers a protective biological response characterized by significantly lower pre-competition cortisol levels and reduced somatic anxiety compared to away venues [31, 32]. Furthermore, the home environment functions as a psychological modulator, as away conditions tend to amplify the negative impact of anxiety on self-confidence, while personal space helps maintain the athlete's mental balance [33]. The guarantee of complete privacy provided by one's own space also fosters deeper self-reflection and openness [34]. A comprehensive analysis must also take into account the athlete's sporting identity. Although home provides safety, it may lack sensory stimuli, such as specific auditory or tactile cues, that reinforce a competitive mindset in professional training facilities [35].

Despite these environmental and sensory challenges, the existing literature indicates divided opinions regarding the quality of the therapeutic alliance in a virtual setting. Some researchers suggest that incorporating online components does not diminish the quality of the relationship, and athletes and specialists report satisfaction levels comparable to those observed in traditional

face-to-face interactions [49]. Furthermore, situational factors play a key role in this regard [16]. A therapist observing an athlete exclusively through a screen may fail to perceive the full situational context, which could hinder an accurate assessment of the patient's safety during states of high pre-competition tension. This underscores the need for a nuanced approach in which online consultations are viewed as a complementary element rather than a universal substitute.

In light of these diverging views, the practical implications for the sports environment focus on implementing a hybrid model. This approach combines in-person diagnostics with remote monitoring, facilitating the optimization of flexibility while accounting for observational limitations. A key element of this contemporary standard of care is the integration of asynchronous tools, such as post-event reflection. These tools facilitate deep self-reflection, providing qualitative data that compensates for visual limitations [36, 38].

3.1 Limitations of Perspective

The majority of analyses referenced in this study concentrate on individual sports or dyadic relationships. It is important to note that the issue of building team cohesion in a virtual environment is only marginally represented in the literature, which suggests difficulties in adapting group tools to the online format. Moreover, there is a paucity of long-term studies that have verified the durability of the effects of online consultations compared with traditional methods across full training cycles involving sports psychologists.

3.2 Directions of Further Research

It is recommended that future research focus on verifying the effectiveness of the hybrid model over a longitudinal period. Concurrently, a significant domain of inquiry pertains to the potential of emerging technologies, such as virtual reality, to transcend sensory limitations.

4. Conclusions

Despite the identified challenges, the implementation of remote psychological support represents a valuable and promising extension of traditional methods. The evolution toward Sports Psychology 2.0 signifies a shift in which in-person and virtual approaches become integral components of a specialist's toolkit, creating a cohesive care system. The virtual environment has the potential to break down barriers to access and utilize innovative tools, thereby offering unique opportunities that complement traditional in-office contact. In this context, the hybrid model emerges as a practical solution, allowing for the flexible combination of the advantages of both forms. This approach facilitates providing support in an environment familiar to the athlete, helping maintain continuity of the therapeutic relationship. Consequently, the Sports Psychology 2.0 standard represents an adaptive response to contemporary demands rather than a complete replacement of existing methods. Furthermore, as digital technologies continue to evolve, the model's framework will naturally expand, opening new perspectives for monitoring and psychological intervention. Therefore, the overarching challenge for the future will not be the technology itself, but the ability to use it judiciously, conduct further research, and continuously adapt interventions to the individual needs of athletes.

Author Contributions

Iga Janus: Writing – review & editing, Writing – original draft, Software, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. Paweł Adam Piepiora: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Competing Interests

The authors have no conflict of interest.

Data Availability Statement

All data is included in the article.

AI-Assisted Technologies Statement

DeepL was used to verify the linguistics of the text at the level of academic English. The authors confirm that they have reviewed and edited the parts that have been verified by an AI-assisted tool to ensure the accuracy and integrity of the text, and accept full responsibility for the content of the manuscript.

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