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Abstract

The purpose of the study was to explore how supervision influences trainee sport psychology practitioners' development of evidence-informed decision-making competence. Six trainees (3 female, 3 male, average age 26.7±1.9 years, average years in training 1.4±0.9 years) and 6 training supervisors (3 female, 3 male, average age 44.7±14.2 years, years supervising 19.5±4.2 years) participated in semi-structured interviews. Participants represented all three sport and exercise psychologist training routes within the UK. Employing an interpretive phenomenological analysis methodology, three superordinate themes emerged that represent applied experiences of developing evidence-informed decision-making competencies: understanding the athlete and environment, translating research to practice, and becoming self-aware. A further three superordinate themes highlighted learning experiences during supervision that contributed to the development of evidence-informed decision-making competence: knowledge exchange, exploring thought processes, and self-development. The findings provide a better understanding of how trainees can develop competent and confident evidence-informed decision-making capabilities for applied sport psychology practice through supervision.

Experiences of Developing Evidence-Informed Decision-Making Competence in Trainee Sport Psychology Practitioners: Supervisor and Supervisee Perspectives

It has been well documented within the applied sport psychology literature that practitioners of sport psychology should follow an evidence-based approach to practice for effective service delivery (Schinke et al., 2023; Smith & Smoll, 2011; Winter & Collins, 2015). To achieve this, practitioners must conscientiously, explicitly, and judiciously use the best available evidence to inform each stage of decision-making (Dozois et al., 2014). Although generating scientific knowledge and applying this to the optimal improvement of performance is recognised as the goal of the profession, it is often difficult to achieve this for two reasons: (1) researchers face complications when conducting interventions that are rigorous, robust, and also demonstrate real-world effectiveness, and (2) practitioners face accessibility and implementation issues when trying to access and apply published research evidence to the real-world (Winter et al., 2024). To overcome these difficulties, Dozois et al., suggested that evidence-based practice should rely on 'research findings published in the peer-reviewed scientific literature and provide a hierarchy of evidence to help psychologists determine to what extent an intervention is evidence-based' (2014, p.155).

Within applied sport psychology, Ivarsson and Andersen (2016) considered what counts as 'evidence' within evidence-based practice and attempted to outline the hierarchy of applied sport psychology evidence. They acknowledged the privilege of efficacy studies (e.g., randomised controlled trials) due to their focus on the measurable effects of specific interventions and strong internal validity. Yet they also recognised the difficulties in transferring efficacy studies into real-world conditions. Subsequently, they listed other types of evidence such as observations, case studies, and qualitative studies of lived experiences that could supply evidence for efficacy and effectiveness of psychological interventions. Although Ivarsson and Andersen's outline remains useful for practitioners trying to navigate

the effectiveness of the applied sport psychology literature, Schinke et al., (2023) reported that practitioners are only sometimes informed by science and lack the resources to stay up-to-date with advancements in the literature.

Difficulties with the evidence-based practice approach are common between the sport psychology profession and other evidence-based helping professions such as healthcare, clinical psychology, and nursing. To address the implementation problems associated with applying research evidence to practice, the nursing profession has reconsidered the nature of 'evidence' nurses draw on to make practice decisions to ensure it better suits the needs of the patient and the demands of the working environment (Rycroft-Malone et al., 2004). Rather than implementing the 'correct' treatment for their patient from the research-evidence, they draw on evidence from research, experience, tacit knowledge, and the client and their environment to construct and implement the best-informed treatment (Belita et al., 2022). This is known as the evidence-informed approach to practice. Winter et al., (2024) suggested that a similar epistemological shift is required for the continual advancement of the applied sport psychology profession. The evidence-informed approach to practice suggests practitioners should be constructing the most appropriate intervention that suits the needs and environment of the athlete and is informed by research evidence and experiential evidence.

Winter et al. (2024) proposed a theory of evidence-informed decision-making for applied sport psychology practice. This process involves practitioners drawing from a variety of evidence including information from the athlete and context, evidence-based knowledge from research literature, and practice-based knowledge developed from experiences of working within applied sport psychology. Winter et al. (2024) also highlighted the importance of integrating these sources to construct appropriate and effective interventions for athletes. To achieve this, sport psychology practitioners must engage in three fundamental but complex social processes that demonstrate competent, confident, and independent

decision-making capabilities. These integrative social processes involve treating every athlete as an individual, tailoring to the individual and the context, and integrating research-based and practice-based knowledge (Winter et al., 2024). Through training and continued professional development, practitioners are required to develop such skills and knowledge to ensure appropriate decisions can be made within the dynamic and at times ill-structured environments sport psychology practitioners operate within. Smith et al. (2019) highlighted the importance of advancing trainee decision-making skills and suggested it should be a clear goal of training and development. To enhance this process, it is important to explore the competencies developed through training to support evidence-informed decisions.

Within the UK, there are three routes to becoming a sport psychology practitioner following a master's degree: the British Psychological Society's Qualification in Sport and Exercise Psychology (BPS QSEP; Stage 2), the British Association of Sport and Exercise Sciences' Sport and Exercise Psychology Accreditation Route (BASES SEPAR), and Professional Doctorate in Sport and Exercise Psychology (DSportExPsy). Sport psychology practitioners are recognised as helping professionals engaged in the process of psychological service-delivery, hence the purpose of these training courses is to enable practitioners to develop service delivery competence. Service delivery competence is achieved through the application of suitable psychological theory through the use of appropriate skills and interventions that meet the athlete's needs (McEwan & Tod, 2015). This definition places the application of theory and evidence as fundamental to delivering an effective service and represents an evidence-informed approach to practice. However, competency checklists within these training programs often do not fully highlight the key skills required to integrate sources of evidence together to make informed decisions. For example, within the BASES SEPAR final submission competency checklist 'justifying decisions made for consultancy from that of a research informed practice' and 'offer a research overview to client in an

appropriate format to justify practice' are the only competencies listed under the skill of 'understanding and use of research' (BASES, n.d.). The focus of these competencies is on justifying decisions with research rather than using research evidence within the decision-making process. To support the development of evidence-informed decision-making competence, training programmes need to emphasise the importance of developing the skills and knowledge required for integrating research findings with other sources of evidence to construct applicable interventions for athletes (Winter et al., 2024).

Research into the skills and knowledge required for evidence-informed decision-making in neighbouring applied fields such as healthcare has received much attention (e.g., Belita et al., 2022). As both sport psychology and healthcare are applied professions aimed at improving client outcomes, the healthcare literature might offer some useful insights. Although not an exhaustive list, the required skills and knowledge for evidence-informed decision-making identified for healthcare professionals include: searching for the best available evidence, using critical appraisal to assess the quality of the evidence, interpreting and evaluating the evidence, determining the relevance of the evidence to practice, and acting on the evidence if and when appropriate (Yost et al., 2014). Similar findings in the applied sport psychology literature demonstrate the importance of critical thinking and evaluation skills for achieving evidence-informed practice (Tod et al, 2007). However, despite the credence given to adopting evidence-informed approaches to practice, barriers prevent its consistent application. Deficits in evidence-informed decision-making practices have been tied to low levels of confidence, knowledge, and skills in performing evidence-informed decision-making related tasks, with trainees often using techniques within their practice without knowing the theoretical or mechanistic underpinning to why they work (Winter & Collins, 2015).

Various strategies can be implemented within training programs to improve the use of evidence-informed decision-making in practice. Within healthcare, strategies for developing evidence-informed decision-making competence include: reminders, educational outreach, opinion leaders, and audit and feedback (Dobbins et al., 2018). Nevertheless, these individual focused strategies led to only small to moderate improvements in evidence-informed decision-making behaviours and patient outcomes (Dobbins et al., 2018). As an alternative, group supervision between trainees, other trainees and supervisors have been identified as useful learning relationships for developing service delivery competence (McEwan & Tod, 2015), analytical reasoning skills, professional judgement, and decision-making (Martindale & Collins, 2013) in trainee sport psychology practitioners. Martindale and Collins (2013) suggested that knowledge elicitation strategies (e.g., critical decision method) provided trainees with an understanding of the rationale behind the experiences being shared to support development of professional judgement and decision-making. Specific research into the development of the evidence-informed decision-making approach to applied sport psychology however is limited (Winter et al., 2024).

Building on the above literature, it is important to expand current understanding of how learning experiences can support development of evidence-informed decision-making processes in trainee sport psychology practitioners. Much of the existing professional development literature within applied sport psychology is based solely on the perspectives of trainees (McEwan et al., 2019); given that supervisors have been identified to influence the development of trainee decision-making (McEwan & Tod, 2023), it would be helpful to explore supervisor experiences of developing decision-making skills and knowledge in trainees. The overall aims of this study were: (1) to explore trainee and supervisor applied experiences of developing evidence-informed decision-making competencies, (2) to explore

trainee and supervisor perceptions of learning experiences that contribute to the development of evidence-informed decision-making competence.

Method

Philosophical Approach

An interpretive phenomenological analysis (IPA; Smith et al., 1999) was adopted through a minimal hermeneutic realist position. Within this study, the hermeneutic portion of this position involved exploring the subject of evidence-informed decision-making competence as a meaning rather than an object. We sought to gain contextual insights from individuals and analyse the divergence and convergence between the meaning behind their individual experiences (Slife and Christensen, 2013). Furthermore, the realist portion of the position implies that those meanings are grounded in the reality of the world (Slife & Christensen, 2013). We accepted that the meanings provided by the participants and interpreted by the researchers were just as real and potentially truthful as any object that can be used to develop evidence-informed decision-making competence through supervision.

Participants

IPA is an idiographic approach that looks in detail at the lived experience of each participant. To give full appreciation to each participant's account and to allow for an in-depth case-by-case analysis, a small sample was recruited (Pietkiewicz & Smith, 2014). A purposive sampling technique was implemented to explore the experiences of trainees and supervisors regarding experiences of developing evidence-informed decision-making competence through supervision. To be eligible to participate, participants had to be either a supervisor or trainee on one of the accredited training routes for applied sport psychology practitioners in the UK: BPS QSEP Stage 2, BASES SEPAR, and Professional Doctorate in Sport and Exercise Psychology. Supervisors were recruited via email invitation. Due to the study requiring only a small sample size, 10 invitations were sent out at random to

supervisors on the BASES SEPAR directory, and 10 invitations were sent out at random to supervisors on the BPS register of applied sport psychology supervisors. Supervisor participants were gained from these initial 20 invitations, with one supervisor also supervising on a professional doctorate. Trainees were recruited via advertisements on social media.

Twelve participants were interviewed to explore trainee and supervisor experiences of developing evidence-informed decision-making competence through supervision. During the first phase of data collection, we sampled six trainees (3 female, 3 male, average age 26.7±1.9 years). Two trainees were on BPS QSEP, three were on BASES SEPAR, and one was completing a professional doctorate. The trainees' average time through completion of their training was 1.4±0.9 years. In the second phase of data collection, we sampled six supervisors (3 female, 3 male, average age 44.7±14.2 years). Two supervised only on BASES SEPAR, one supervised only on BPS QSEP, two supervised on both BASES SEPAR and BPS QSEP, and one supervised on BASES SEPAR, BPS QSEP and professional doctorate training routes. The supervisors' average duration of supervision experience was 19.5±4.2 years, and they were currently supervising 4.0±4.0 trainees.

Procedure

The research was approved by a university ethics committee. Participants were invited via email to take part in the study and written consent was gained prior to the participants' engagement with the study. Data were collected through in-depth, semi-structured interviews. An interview guide was developed based on professional development and training literature related to decision-making in applied sport psychology (e.g., Martindale & Collins, 2013; Smith et al., 2019) and the processes involved in evidence-informed decision-making (e.g., Poot et al., 2018). Before interviews began, a definition for evidence-informed decision-making was provided by the interviewer. BPS and BASES competency checklists were also

reviewed to support construction of the interview guide. Interview questions focused on evidence-informed decision-making competencies that related to client consultation, the application of research to practice, and the use of tacit and experiential knowledge in practice. Experiences of how these competencies develop during training and supervision were also explored. All interviews were conducted on an online video platform by the first author, and interviews lasted 57-99 minutes. Interviews were recorded and transcribed verbatim by the first author. Participant names were replaced with ID numbers, with S denoting the supervisors and T the trainees.

Analysis

A double hermeneutic approach was applied that involved two types of interpretation (Smith et al., 1999). First, participants had to make sense of their own lived experiences. Second, I (the lead author) interpreted the participants' accounts of their lived experiences. To develop familiarisation with each practitioner's accounts, transcripts were read several times, and annotations were made with the aim of trying to interpret the participants' accounts of their own lived experiences. This helped to develop my understanding of each participants' accounts and allowed me to focus on the significance of experiences rather than the frequency of their occurrence.

Third, the research team discussed the content of annotations to guide emergent themes, condensing the original descriptions but capturing the meaning of accounts. We clustered themes together based on shared meanings and/ or central concepts. In line with the idiographic nature of IPA, this process was initially conducted for each participant separately before assessing the divergence and convergence between the themes derived from each transcript. At this stage, themes were removed if they did not fit well with the emerging structure or because they were not frequently or saliently discussed by participants (Pietkiewicz & Smith, 2014).

The IPA analysis process involves researchers interpreting the participants' interpretations of their experience of the social world (Pietkiewicz & Smith, 2014). Subsequently it was important for us to acknowledge how our experiences may influence data generation. As a sport psychology researcher who did not practice, my interpretations of the data were not biased by my own practice experiences. The remaining members of the research team included three researchers that all held academic positions in UK universities with research responsibilities in their contracts. They all engage in applied work and favor a scientist-practitioner approach when doing so. Only one of these individuals was an active supervisor on the BPS QSEP training programme, but the other two members had supervisory responsibilities on an MSc Sport and Exercise Psychology programme. Therefore, lines of inquiry were influenced by their research and practice experiences.

As I, the lead author, was a third year PhD student at the time of data collection, I was developing awareness of my philosophical research position and how it influenced my role as a researcher. To facilitate personal reflexivity of this developing understanding and ensure my research decisions were methodologically coherent and relevant to the research question, I met monthly with an external qualitative researcher and educator. This individual had experience with conducting IPA studies from a minimal hermeneutic realist viewpoint. The qualitative expert was later included in research team meetings discussing the clustering of themes to further analyze the relationship between categories and codes emerging from the data.

Quality and Rigour

Quality considerations were internalised within the experiences of the research team while conducting the current study. To achieve this, we used Yardley's (2017) general guidelines for enhancing and demonstrating the quality of qualitative research appropriate for IPA.

Sensitivity to context was achieved by showing awareness of the participants' perspectives and settings, and how this influenced what the participants said, and our interpretations of their meaning. For example, understanding whether participants had a positive or negative supervisory experience impacted their perception of developing evidence-informed decision-making competence. The trainees interviewed in this study described overwhelmingly positive training experiences which provided a homogenous account, but we accept that there could have been divergence in the results had an individual received a negative experience. Furthermore, this study was conducted in 2020 and 2021. We therefore had to consider how the limited face-to-face contact due to the covid-19 pandemic affected supervisory services and subsequently impacted participants' interpretations of their experiences. For example, supervisors had to find online methods to develop the competence of their trainees.

Yardley (2017) suggests that commitment and rigour to the generation of data that represents the participants' experiences can be demonstrated by undertaking a detailed, in-depth analysis that clearly displays how the interpretation was derived from the data. As the first author, I employed a comprehensive analytical process. I kept audit trials of how annotations became emergent themes, how emergent themes were clustered together, and how relationships between themes were explored based on conceptual similarities. These audit trials were incorporated into the reflexive approach to data collection and analysis as they were discussed with the research team. During research team meetings I would present and display the analytical evidence that led to the formation (or removal) of a theme. This would be debated and challenged by the research team and a collective decision would be made based on our interpretations and the study context.

Results

The participants discussed various experiences regarding the phenomenon of developing evidence-informed decision-making competence during supervision that resulted in two clusters of themes: (1) applied experiences of developing evidence-informed decision-making competencies, and (2) learning experiences contributing to the development of evidence-informed decision-making competence (see Table 1).

Applied Experiences of Developing Evidence-Informed Decision-Making Competencies

Understanding the Athlete and the Environment

The superordinate theme of understanding the athlete and the environment involved experiences of developing competencies for gathering information from the athlete and the environment to inform decision-making. Trainees indicated that they needed to observe situations and interpret critical cues from conversations with athletes and their support systems to understand (1) the context of the situation, (2) the impact it has on the athlete, (3) the influence of the athlete's coaches and additional stakeholders. The two super-ordinate themes were being a person, not just a qualification and building contextual intelligence.

Being a person, not just a qualification. This theme was discussed by all participants and referred to experiences of developing personable characteristics and interpersonal skills to communicate effectively with clients. These skills were used to build professional and trusting relationships with clients to facilitate information gathering and included communication, active listening, empathy, humour, and patience. Specifically, trainees were learning how to exercise communication, listening, and observational skills in a professional but personable manner.

> A lot of that (gaining information from the athlete) will be through different layers of listening. I'll have a superficial layer that is the content of what they're saying. Then there's a layer underneath in terms of feelings and their emotional experience. And then there's a layer underneath around their beliefs and the deeper motivations. –T6

For both trainees and supervisors, they were conscious that trainees needed to develop the confidence and competence to apply their training and education to real world-practice:

> They (the trainee's supervisor) want to make sure that by the end of our qualification we don't have a piece of paper that says that we know what we're doing. We actually feel confident and are able to go out and do what we say that we can do. –T3

For some supervisors, having a good level of interpersonal skills was a pre-requisite for taking on a trainee. However, S8 was disappointed when their supervisee expressed that another potential supervisor had told them they did not have the interpersonal skills necessary to pass the qualification. T5 talked about their experience of being 'selected' based on skill:

> I asked, 'why did you pick me over everyone?' They said 'because you have the soft skills of being a practitioner, you have the genuine interest, the warmth, the character, the caring nature. You've got the humour, the hard skills can be taught later.'

Building contextual intelligence. Participants described experiences of how being immersed in a client's environment helped them to develop an awareness of the complexities and nuances of the situational context. T5 was questioned by their supervisor 'Do you appreciate everything that goes on to know this is the right thing for this person?' –T5

Participants used this exposure to grow their knowledge of the sporting context, build an understanding of the people, culture, and language of the environment, and foster meaningful relationships within the sport. T6 describes an example from rowing:

> Selection decisions came up through a number of individual chats unprompted that it was quite a big stressor. I spoke to the coaches about it and they said it is difficult to manage as they don't know how much to say about how they make these decisions because some of it's just a feeling and your judgement and some of its data. So I realised this is clearly a thing, I don't feel like I understand it very well, I'd like to explore it so let's collect a bit more information and lets have some group sessions to understand how they (the athletes) cope.

Translating Research to Practice

The superordinate theme of translating research to practice comprised experiences of developing competencies that facilitate the use of research to inform practice decisions. All participants agreed that applying research evidence to practice was fundamental to their effectiveness as practitioners, but often felt this capability was impeded by the lack of transferability of research findings to the applied field. This theme includes three subordinate themes: conducting research supports research comprehension and application, critically evaluating the research literature, and intervention construction, not selection.

Conducting research supports research comprehension and application. Trainees and supervisors expressed that the research project components of their BSc and MSc programs were useful for developing knowledge, but that trainees also needed to continue to engage with research to understand the applications of new developments within the field.

> You want to make sure that what you're doing is actually adding to the literature. Then you identify a gap, and it might turn out no one's tried to answer that question. So, it's being able to check out what has been done, how it's been done and use that as a way to inform your methodology. I find that really useful because that helps you design and apply your own interventions. –T11

Participants also described experiences of reading within and beyond the applied sport psychology literature to develop a base knowledge of many approaches (e.g., CBT, REBT, positive psychology, counselling) and techniques (e.g., imagery, self-talk, arousal regulation, active listening) to support them in constructing evidence-informed interventions. T5 described developing 'T-shaped expertise where you have a breadth of knowledge about your discipline or other disciplines, but then you've got a real depth of knowledge in one particular area that you are kind of known for'. In some instances, this involved completing a PhD.

Critically evaluating the research literature. Critical evaluation involved trainees developing competence in identifying strengths and weaknesses of research, evaluating its validity, usefulness, and application to practice. Participants expressed that MSc programs had helped trainees to develop foundational skills in critically evaluating research, but supervision supported critical evaluation with relevance to practical application. This covered reading full articles (e.g., research-based and practice-based intervention studies, case studies, interviews, ethnographies) and identifying what information was relevant and irrelevant. Trainees highlighted key points such as what was done, why it was done, how it was done, in what context it was done, what the outcome was, and how it relates to applied practice.

> It's evaluation of what you read. It's not just a question of being negative, it's a question of thinking about how that paper will apply to what you're doing. –T12

Intervention construction, not selection. Trainees and supervisors were conscious that trainees needed to be able to apply research to an athlete's specific context rather than just to practice generally. Trainees described experiences of critically evaluating information they had gathered and using it to inform the design of specific, tailored interventions. S2 felt that knowledge translation was the hardest competency for trainees to develop due to the lack of literature that informs the reader on exactly how to directly apply rsearch to practice:

> There's one thing being able to remember the information and being able to feed it in a non-judgmental way or even just being able to close a conversation, knowing how you restart it, noticing things after a couple of sessions and that's not in the literature. There's one thing reading it and there's another thing being able to actually do it.

Trainees described using information from research to support them in constructing the most appropriate solution to be implemented at that point in time, rather than matching an intervention to an athlete's issue due to the disparity between research and practice:

> You're never going to find, especially when you're looking at RCTs (randomised controlled trials), you're never going to find something that fits neatly into your one-to-one client because I suppose that's the nature of one-to-one work. –T10

Becoming Self-Aware

In self-awareness, participants explained experiences of trainees developing an understanding of their beliefs, feelings, unconscious biases, and behaviours, and how these influenced their evidence-informed decisions. There were two subordinate themes: connecting the practice to the person and trusting professional judgements.

Connecting the practice to the person. Trainees needed to be conscious of different aspects of the self, with awareness of their beliefs, values, assumptions, and biases and how they influence their decisions. This approach supported trainees with "working with clients in a way that was congruent with my (the trainee's) philosophy" (T3). T12 described how understanding their personal and practitioner identity led to improved service delivery:

> Before I was looking at interventions and off the shelf methods with the first few clients I had instead of taking a step back and focusing on the foundational elements. I needed to not be so hasty to get stuck in and give a client all the answers straightaway. I think the pressure is you're not confident in yourself straightaway. When you start out, theres a pressure to have the answers and show you're competent and maybe do things that didn't align with me and just used off the shelf stuff that wasn't working.

Building awareness of the connection between the trainee's personal identity and practitioner philosophy was described as key for professional development by supervisors:

> So I ask them 'how does this compare to your own practice and your own philosophy within the way you work and so how have you used that to build this program?' – S7

Professional judgement. Learning to trust the professional judgements they were making was an experiential process for all trainees. This process involved trainees enhancing

their capability to judge the credibility of individual sources of information and trust their competence in integrating these sources to inform practice decisions over time. T6 talked of developing the capability to make sense of all sources of evidence and bring them together using different terms, including 'common sense' and Buddhist wisdom'. Trainees learned how to adapt interventions to the changing needs of the athlete and/or environment.

> It's a really tricky thing to make a decision and I suppose that's professional judgment and decision-making. There are so many influences on how you make a decision, is it one thing or the other? Whereas actually you're trying to make sense of everything together to make one simple movement. –T5

Learning Experiences Contributing to the Development of Evidence-Informed Decision-Making Competence

Knowledge exchange

In the superordinate theme of knowledge exchange, trainees and supervisors detailed experiences of engaging in discourse between trainees, supervisors, and other relevant individuals to share research-based and practice-based knowledge. This was comprised of two sub-themes: relating research to prior knowledge and experience and meaning making of others' practice stories.

Relating research to prior knowledge and experience. Through supervision, trainees discussed research over various platforms and with a variety of individuals. All trainees and supervisors that participated in this study were members of supervisory groups or 'communities of practice' (T3) within which trainees engaged in evidence-based presentations and discussions with their supervisor and training peers. Trainees would listen to the ideas and opinions of others, reflecting on how it related to their prior knowledge and experience and how they may be able to incorporate it into the work they do with their client:

> Having discussions with other trainees or neophyte psychologists around research topics and hearing what their experiences are and what are the lessons and what would you do. It's so helpful because it helps me develop too and just like hearing other people's experiences and bouncing off their ideas or suggestions. –T11

Supervisors tended to play a background role in these sessions, allowing trainees to lead conversations but would step in occasionally to moderate and support. These discussions also helped to broaden the trainee's knowledge, practice their critical evaluation skills, and develop their knowledge translation and professional judgements.

> One of the things that we do quite a lot is research journal clubs. I think for me, it's not necessarily about educating the guys about the literature per say, its more about allowing them to challenge the literature… (for example) What does this intervention say? Would it work in your environment? Why would it work in your environment? Why wouldn't it? What can we learn from it in the way that we work? –S9

Meaning making of others' practice stories. In this subordinate theme trainees described listening to the lived experiences of their supervisors and peers and making meaning of how those stories related to their own experiences and might influence their own practice decisions. Some trainees chose their supervisor based on their wealth of experience as they wanted to learn from the stories shared by their supervisor. During peer and group supervision, trainees would exchange experiences, discussing each other's interpretations of the critical learning points from the decision-making process within the stories. It was these experiences that trainees connected most with as they were similar to their own experiences but set in different environments and cultures they could learn from and personally reflect on:

> We had a discussion of what's your experience been like doing consulting through zoom on a camera. Each person brought obviously anonymously different experiences and those discussions, maybe prompt additional thoughts for you to go back and

> reflect on. Like someone said they had a one-to-one session with an athlete and then they found out like two weeks later, the athlete was actually injured but because they had a leg injury and they were looking at them on zoom they just didn't know. It's just things like that that just prompt those reflections that you then go ‘oh actually that's something I'd never considered’. –T3

Exploring Thought Processes

Exploring thought processes incorporated activities within supervision that helped trainees to understand how they formed and organised their thoughts within the evidence-informed decision-making process. This superordinate theme mainly included experiences of developing self-awareness competencies, helping trainees become aware of how their beliefs, values, assumptions, and biases impacted their thought processes and strengthened their decision-making and professional judgements. There were three subordinate themes: providing a safe space, being challenged, and engaging in personal and group reflection.

Providing a safe space. Supervisors assisted trainees in exploring their thought processes by establishing a good relationship and providing a safe space for trainees to discuss their thought processes in the absence of judgement.

> The relationship with the supervisors is a really important thing, so we can be honest and open and offer that kind of challenging supervision, so that they can they are able to learn and develop accordingly. –S1

Trainees developed confidence in all decision-making competencies when they felt comfortable sharing their thoughts openly with their supervisor. Trainees felt they could make mistakes, learn from them, and have their supervisor guide them to better solutions:

> I wanted to keep with someone (a supervisor) who knew me, someone who I could be whole heartedly honest with in terms of ‘I've not got a clue what you mean can you explain in more detail?’, without having the embarrassment of pretending. –T10

Being challenged. Being challenged involved supervisors asking trainees how they made a decision and asking them to defend that decision. T10 described having 'verbal diarrhoea' in sharing every thought that they had about a situation and then the supervisor would question the trainee on their decisions, highlighting blind spots and getting trainees to consider different perspectives. S4 discussed their approach to challenging trainees:

> So when I first talk to the trainees, they say 'first I'm going to talk to them (athletes) about the myths of sports psychology and tell them what we really do, and then in session one I'm going to show them relaxation training, and then in session two we're going to do Self talk'. I hate to dash their enthusiasm, but I always say to them 'hold back a minute, I think you need a lot more discussion with the clients about their cognition, about where they see things, and only then might you decide you want to use something from this toolkit. But don't just go in there with the preconceived notion that we're going to do this, that, and that'.

Challenges often led trainees to experience awkward silences followed by epiphanies, where they realised something they had missed and could gather more information.

> We started calling them oh shit moments. They ask me a question and I missed that out. For example, I'm with an athlete, I've said this is the issue, pre-performance anxiety, I found this research to inform the intervention strategy, what do you think? Then (the supervisor) would ask me something like 'what are the historical events that have made this athlete develop this anxiety?' And then I'd be like 'oh shit I don't know'. So I've not developed a systemic case to get all the information together. –T12

Engaging in personal and group reflection. Supervisors encouraged trainees to reflect on their evidence-informed decision-making and what they have learned from it. Trainees were constantly encouraged to reflect on their beliefs and values and the influence this may have on their decisions. This was encouraged through completion of reflective diaries in addition to reflections required for assessment:

They ask to see my client notes and then also just my general reflections I have of the work that I'm doing. But like I said I'm quite reflective, so my process notes are very, very detailed and I just put a lot of thought into it. That, then, helps my supervisor. I tend to reflect on like things that went really well, things are going really badly, or that I think could be better. And then I'll send my critical analysis for them to read over. Like they don't have to know exactly everything I spoke about with the client, but for them to say these are the questions they're asking and that's really helpful because then they feed that back to me. –T3

Reflection also occurred within group supervision for trainees to express their thoughts, feelings, and opinions about the shared experience of training. Within groups, they were able to reflect on how different their experiences could be within a similar situation, taking away key learnings about each other's thoughts processes to support future practice.

> They've been really good at encouraging reflective practice. Particularly after all the role plays that we do… We'll always do a debrief and a reflection across the room and that's encouraged reflective practice for all of us. I'm quite a reflective person anyway, but getting to that level of critical reflection, where you can actually learn from what you're doing and really just understand how it all makes sense. –T3

Self-development

Self-development involved supervisors supporting trainees in the conscious pursuit of personal growth by improving confidence and competence of evidence-informed decision-making. Trainees achieved self-development through two subordinate themes: receiving tailored supervision and developing confidence and self-awareness through role play.

Receiving Tailored Supervision. All supervisors agreed that they wanted to support the development of confident and competent sport psychology practitioners who could make independent decisions supported by evidence. To achieve this, supervisors tailored supervision to the individual trainee, guided by the trainee's needs. For some participants, the

onus was on the trainee to ‘set the agenda’ (T6). This helped trainees to develop self-awareness around how they were developing as a practitioner and identify competencies they needed to further develop their decision-making. Other supervisors took a more hands on approach and would structure mandatory sessions, but the content was driven by the trainee’s progress. Two trainees described being asked to construct their own competency checklist separate from the qualification requirements so that they could work with their supervisor on the competencies they felt would help them to become an independent practitioner.

> We've been tasked to make our own (competency checklist). So, it's actually put on us to say ‘ok, what are the competencies of sports psychologists and how are we working through those things?’ Rather than saying ‘right I've got a checklist here of things that I'm assessing you on’. Half of that checklist turned into personal qualities and how you operate in a high-pressure environment. So how are you able to relate to people? How are you able to talk with different populations of people? How are you able to kind of maintain a calm and logical approach at competition. Things like that that are good to be aware of. –T5

Developing confidence and self-awareness through role play. The role play subordinate theme involved taking time in supervision to practice consulting and delivering interventions with supervisors and peers before trying it within an applied setting. Discussing ‘if then what’ (T6) scenarios and participating in role plays with supervisors and peers in group supervision allowed trainees to try different consultation and delivery techniques in the absence of consequence. They also received feedback highlighting their strengths and what areas of their practice that they could improve on to facilitate behaviour change in an athlete.

> I'm a big believer of if you're doing one-on-one skills, you’ve obviously got the consultancy skills, but then, when we start thinking about planning interventions, I don't want them planning interventions with real people for the very first time without

> practicing. As part of the role play, the first sessions were just getting skills, but now they have to do a full needs analysis, full case formulation, and then plan out the intervention through the role play. –S2

T10 provided an example of how a role play helped them to improve their services:

> As an example, I had a session with a client, where I was teaching them acceptance and commitment therapy and I just got so excited. I told them like three techniques in one go. It was ok, but, on reflection, I felt like it had gone terribly. So then my supervisor told me in your next role play I want you to just focus on one skill, I want you to spend the whole role play just delivering that one skill. It kind of forces me to do it again, reflect on it, and then I've got the confidence to implement it better.

Trainees gained the most from role play when they were paused at critical moments such as at an important reflection point, to clarify a term that was being used, or to question a decision. These exercises supported trainees with being continuously reflective in practice.

> They (the supervisor) paused the role play and said, 'you've not clarified what high intensity means and I'm not sure I know what that means', and I was like 'Oh, my goodness!'. It's so simple, I'm not clarifying the meaning of terms and I'm assuming that what the person thinks is high intensity is what I think is high intensity. It made me aware of my assumptions, using my philosophy to inform how I work. –T3

Discussion

The aim of this study was to explore trainee and supervisor experiences of developing evidence-informed decision-making competence during supervision. Three experiences emerged from the data that support the development of evidence-informed decision-making competencies: understanding the athlete and environment, translating research to practice, and becoming self-aware. Three learning experiences emerged from the data that contribute

to the development of evidence-informed decision-making competence: knowledge exchange, exploring thought processes, and self-development.

The first theme of applied experiences of developing evidence-informed decision-making competencies was understanding the athlete and their environment. Trainees and supervisors described going beyond the application of their qualification by developing the interpersonal skills and personable characteristics required to build meaningful and trusting relationships with clients. A strong consultant-client relationship allows the trainee to communicate effectively with the athlete and gather the necessary situational and contextual information to make informed practice decisions (McEwan et al., 2019). Trainees with strong interpersonal skills are able to listen to athletes more effectively, gain a better understanding of the issue raised, and subsequently offer more tailored and collaborative solutions (McEwan et al., 2019). The majority of supervisors reported only taking trainees on that they felt had the soft skills of a practitioner. Communication and collaboration are examples of 21st century skills recognised as essential for success in education, work, and health, but graduates of helping professions (e.g., psychology and health) lack preparation for what present-day professions require (Lavi et al., 2021). Training competencies of accredited applied sport psychology organisations must therefore reflect the demands of real-life applied sport psychology practice to support development of career readiness for trainees.

Providing trainees with simulated practice opportunities, such as role plays, were recognised as an effective method for developing trainee skill, confidence, and self-awareness of working within the field. Findings suggest that experiential learning activities allow trainees to practice interventions on training peers in the absence of harm and judgement. These experiences develop the trainees' confidence through repetition and support them with managing anxieties by taking responsibility of their decision (Tod, 2007). To aid reflection and expertise development, a unique finding from this study introduced the

experience of ‘pausing’ role plays at critical moments. These critical moments could be for a supervisor to clarify a point or for the group to engage in reflection. This exercise introduces critical cues that are used within knowledge elicitation strategies (Martindale & Collins, 2013). In this instance however, rather than picking up on the critical cues of someone else’s story, trainees are being taught to identify and reflect upon critical moments within their own practice. Building this self-awareness in role play freeze frames will support trainees with reflecting on their decisions and will enable them to adapt.

Building contextual intelligence was a key experience for trainees aiming to understand the athlete and their environment to enhance evidence-informed decision-making. Brown et al. (2005) described this as knowing the culture of the specific sport setting and understanding the historical and philosophical evolution of the sport, its political structures, decision-making processes, and values and attitudes of its people at all levels of an organisation. Contextual intelligence can be developed through immersion in the sporting organisation, but there are many potential contexts trainees could work in and not enough time to immerse themselves within them all. Learning from the experiences of others through formal and peer supervision provided trainees with an opportunity to hear stories about other contexts, the cultural challenges other trainees have faced, and the approaches they took to overcome them. Supervisors were teaching trainees to engage in meaning making; trainees developed a process of learning how to construe, understand, and decipher the practice events and relationships described within the stories. Without meaning making, trainees may not identify the decision-making processes within the stories, rendering them unhelpful for decision-making development (Klein, 2017).

Translating research to practice was the second theme of experiences that supported trainees with developing evidence-informed decision-making. Research has the potential to strongly guide decision-making, but it must be effectively implemented for it to be helpful

(Winter & Collins, 2015). Participants found that conducting their own research projects during undergraduate and postgraduate training provided them with an understanding of the processes involved in testing theories and exploring concepts. This knowledge supported trainees with knowing what information within empirical research was relevant to know for translation into practice. Experience of conducting research and learning about psychological theory provides trainees with frameworks from which they can operate within and subsequently helps them understand their clients, assist the construction of suitable interventions, and helps them gain confidence in their actions (Tod et al., 2007). Yet sport psychology graduates continually express that theory and research are less helpful to their development when compared to practising service delivery as not all of the knowledge appeared readily applicable to clients (Winter et al., 2024, Tod et al., 2007). Training programs must demonstrate the relevance of research and theory to the actual practice of applied sport psychology to ensure the next generation of sport psychology practitioners continue to be informed by current research knowledge and meet the profession's requirements for continued professional development (Ngulube, 2021).

Critically evaluating the research literature was an important experience within research utilisation that enhanced evidence-informed decision-making of trainees. Critical evaluation engages the skills of analysis and interpretation to help trainees appraise research and its validity and usefulness within the applied context (Smith et al., 2019). All supervisors in this study have started to create communities of practice where trainees can discuss the practical relevance of research literature and reflect on how it relates to their individual prior knowledge and experience. This experience can create cognitive dissonance for trainees, whereby a new perspective may conflict with their pre-existing biases and assumptions (Ngulube, 2021). These experiences nurture curiosity within trainees, and encourage them to challenge what they hear, observe, read, and experience.

Intervention construction, not selection was the final experience within translating research to practice that facilitated evidence-informed decision-making. Trainees and supervisors emphasised the importance of developing the knowledge and skills needed to integrate the best available evidence in the construction of an intervention that suited the needs of the client, was appropriate for the context, and had the desired outcome on the end goal. Participants mainly discussed interventions that were delivered over a series of sessions with clients, rather than reactive responses to situations. This moves away from the previous epistemological stance of applied sport psychology that implied an intervention was something to be 'selected' (Tod et al., 2007). The knowledge needed to achieve this is regarded as 'know-how' (the practical knowledge on how to accomplish something) and is intertwined with the situational context the knowledge was generated from, making it difficult to express and extract (Yost et al., 2014). Martindale and Collins (2013) suggested that applied cognitive task analysis could be used to make cognitive demands visible to the listener and maximise the shared experiences between supervisors, trainees, and peers. For example, supervisors need to identify how they made a specific decision when sharing experiences among their communities of practice for trainees to relate it to their own practice.

The final theme of experiences that supported evidence-informed decision-making was becoming self-aware. Connecting the practice to the person was vital to decision-making as the beliefs, values, assumptions, and biases trainees held about the world impacted on the evidence trainees drew on and the subsequent decisions that they made. Participants described fitting their practice approach with the person they are. This is demonstrated in the hierarchical structure of professional philosophy, which sees personal core beliefs and values underpin and inform all subsequent components, such as theoretical paradigm, model of practice, and intervention goals and techniques (Poczwardowski et al., 2004). Professional judgement was an important skill for trainees to develop as it allowed them to judge the

credibility of individual sources of evidence and integrate them into the decision-making process. Smith et al. (2019) suggested that applied sport psychology requires practitioners to make a series of judgements and decisions in dynamic environments and at multiple levels of practice (e.g., programme, intervention session). Having competence in professional judgement allows practitioners to make evidence-informed decisions in response to the changing needs of the client throughout the consultation process. To develop an understanding of beliefs and values and professional judgement, supervisors placed trainees at the centre of the training process and tailored their approach to the trainee's needs and requests. Getting trainees to create their own competency checklist was an example of a constructivist learning method through which trainees played a central role in the control of their learning (McEwan, & Tod, 2015). Furthermore, providing a safe space through which supervisors challenged trainee's decisions helped trainees to critically analyse the knowledge construction process and strengthened their decision-making capabilities.

Practical Implications

The current study offers several practical implications. Trainees and supervisors could use supervision to develop the personable characteristics and interpersonal skills of trainees. This will enable trainees to use the knowledge gained from their training to build strong client-consultant relationships, communicate effectively with clients, and subsequently gather the required information from the athlete and their environment to make informed practice decisions. Trainees can develop confidence in these capabilities by practising them through experiential learning activities such as role plays and discussing 'if then what' scenarios. Supervisors could maximise freezing techniques to support development of trainee self-awareness by highlighting critical moments of the trainees decision-making process. Whether reflecting on a correct decision, further clarifying a decision, or changing a decision, supervisors could support trainees with reflecting on the experience and learning from it.

Supervisors could draw on cognitive task analysis to support trainees with the meaning making process of deciphering the stories of supervisors and peers. This exercise makes the decision-making audit trial of experiential stories visible to the trainee and enables the trainee to relate it back to their own prior knowledge and experience. Understanding how supervisors and peers construct interventions can be used to develop the construction capabilities of trainees. This will support trainees with designing interventions that are based on a variety of credible evidence sources, rather than 'selecting' interventions from the mental skills book. Despite the move away from evidence-based practice to evidence-informed decision-making, it is important that supervisors are promoting the importance of grounding decisions in theory and research to uphold the standards of the applied scientific profession of applied sport psychology (Ngulube, 2021). In this study trainees and supervisors believed that gaining first-hand experience of conducting research helped trainees to understand the importance of research, identify the information that is relevant (and irrelevant) within research literature, and effectively apply it to practice. These experiences however must be relevant to the clients and environments that trainees can work within to ensure the next generation of sport psychology practitioners remain dedicated to the pursuit of practice informed by research evidence.

The findings of this study suggest that through a tailored supervision approach, supervisors can support trainees in developing self-awareness of their decision-making processes. Supervisors could provide trainees with opportunities to develop understanding of their own beliefs and values and the influence they have on their decisions and judgements. Supervisors could tailor supervision to the trainees needs and enable them to play an active role in the mediation and control of their learning (e.g., creating a personal competency checklist). Supervisors could provide trainees with a safe supervisory environment where

they are constructively challenged by their supervisors and peers in one-to-one sessions and within communities of practice.

Future Research Directions and Limitations

This study provides useful insight into the learning experiences that contribute to the development of evidence-informed decision-making competence. To demonstrate naturalistic generalisability (i.e., recognition of the similarities and differences to the results with which the reader is familiar), many anonymised quotes were included to provide a range of perspectives from trainees and supervisors from various training routes in the United Kingdom (Yardley, 2017). Future research could explore how the competencies and development methods presented in this study can be best operationalised in training and continued professional development opportunities. For example, training interventions that utilise constructively aligned teaching methods could help trainees to become the central part of the supervisory process that focuses on knowledge construction, and not just retention. Finally, as the study was carried out in 2020 and 2021, consultancy and supervisory services had to be adjusted due to the covid-19 lockdowns within the UK. Although participants discussed their experiences pre and during covid, we accept this as a potential limitation.

Conclusion

In conclusion, this study has presented experiences of developing competencies related to understanding the athlete and the environment, research utilisation, and self-awareness to support evidence-informed decision-making. Moreover, the study has demonstrated how knowledge exchange, exploring thought processes, and self-development strategies can be used in supervision to facilitate evidence-informed decision-making competence. The findings could help trainees, supervisors, and sport psychology organisations support the development of independent sport psychology practitioners who are confident and competent in making evidence-informed decisions in practice.

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