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The perspectives of high-performance athletes on mental health assessment: a mixed-methods exploratory study

Connor Silvester ^a, Patria A. Hume ^b, Trevor Clark ^c and Liesje Donkin ^a

^aPsychology and Neuroscience, Auckland University of Technology, Auckland, New Zealand; ^bSport Performance Research Institute New Zealand (SPRINZ), Auckland University of Technology, Auckland, New Zealand; ^cFaculty of Sport, Event Management, Tourism and Hospitality, International College of Management Sydney, Manly, Australia

ABSTRACT

Epidemiological evidence has reinforced the importance of psychological screening and mental health assessment (MHA) of high-performance athletes for early identification and prevention of mental ill-health. However, there is variation in worldwide implementation of MHA. It is unclear what assessment is available to athletes and how this assessment is perceived by those within the high-performance environment in Aotearoa/New Zealand. This study sought to identify experiences Aotearoa/New Zealand high-performance athletes had with MHA, the effects of MHA, and how MHA might be improved. Seventy-four athletes answered an online, mixed-methods survey investigating this topic. Over half of all participants reported having experienced no MHA monitoring, 55% reported current screening approaches were insufficient, and 89% indicated assessments could be improved. Of those whose mental health was actively screened, 22% believed current approaches were sufficient, 47% believed that current approaches were partially sufficient, and 31% believed current MHA approaches were insufficient. Participants reported that MHA facilitates access to support, addresses mental health stigma, and has a bidirectional association with sporting and personal culture. Participants differentiated between formal and informal assessments, discussing the positive and negative features of both.

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High-performance athletes operate within uniquely challenging environments (Arnold & Fletcher, 2012) that contribute psychological challenges. First, athletes appear to experience similar, if not elevated rates, of mental ill-health (MIH) such as anxiety, body image disturbance and eating disorders, sleep deficiencies, general psychological distress, and substance abuse (Gouttebarga et al., 2021; Gouttebarga et al., 2019; Gouttebarga et al., 2017; Reardon et al., 2019). Under the dual continuum model of mental health (Keyes, 2002), mental health is not solely the presence of absence of MIH, however. Instead, it

CONTACT Connor Silvester  connor.silvester@aut.ac.nz  School of Clinical Sciences, Faculty of Health and Environmental Sciences, Auckland University of Technology, Private Bag 92006, Auckland 1142, New Zealand

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also considers the role of protective mental well-being (MWB) factors, such as social support, positive affect, help-seeking behaviour, and mental health literacy. Unfortunately, the high-performance environment also presents challenges to MWB, including high mental health stigma (Delenardo & Terrion, 2014), inconsistent social and family supports (Adams et al., 2015), inconsistent mental health support (Silvester et al., 2024), and sacrifices in other life roles (Smith et al., 2024).

In high-performance environments, poor mental health is particularly consequential as it can reduce athlete quality of life (Akesdotter et al., 2020), increase risk of injury (Biggins et al., 2019), impair professional performance (Weber et al., 2018), and difficult transitions out of sport (Knights et al., 2016). Despite the high burden of these consequences, poor athlete mental health is often under-recognised, under-treated, and rarely discussed in high-performance populations (Barnard, 2016). A primary cause for this disconnect appears to be stigma, wherein the label of “mental illness” (the common term for MIH) is associated with harms such as reduced opportunities, diminished self-esteem, and persecution from others (Bauman, 2016). This has contributed to reduced capacity for clinicians in the high-performance environment to identify athletes that are struggling and provide effective psychological and clinical support (Gulliver et al., 2012). In light of the new-found awareness of the vulnerability of athletes, greater emphases have been placed on the potential values offered by regular mental health assessment (MHA) in sports environments. MHA is defined as the use of questionnaires, screening, and interviews to assess the presence, severity, and frequency with which an individual experiences MIH and/or the risk of exacerbation of symptomology (Maxim et al., 2014). MHA is a fundamental component of psychological support, and has demonstrated efficacy in improving the identification of MIH in educational (Anderson et al., 2019), correctional (Baksheev et al., 2012), and medical (Cocozza et al., 2024) samples. Indeed, because MHA facilitates effective treatment that reduces negative consequences of long-lasting MIH (McGorry & Mei, 2018), it is unsurprising that European (Moesch et al., 2018) and North American (Tomalski et al., 2019) sporting organisations have made significant investments into the development of MHA.

Despite the clinical utility offered by MHA, effectiveness of MHA may vary internationally because of varying sporting and cultural contexts. Regarding sporting contexts, the structure and resource availability of Aotearoa/New Zealand may differ significantly from countries in Europe and North America; a feature that may impact the manner in which MHA can be provided. In Aotearoa/New Zealand, the governance of high-performance sport is split between High Performance Sports New Zealand (HPSNZ) and National Sporting Organisations (NSO). HPSNZ is a government funded body that provides support to high-performance athletes and invests, supports, and provides resources to a wide range of NSOs. NSOs are, in turn, responsible for the governance of their respective sport and athletes. This structure has contributed to blurring and confusion around obligations that organisations have to athlete mental wellbeing, leading to two external audit and reviews of policy and procedure to improve the quality of support offered to athletes (Heron et al., 2022; Mackinnon, 2021). Additionally, variation in the funding each NSO receives varies the practical and clinical resources they have, resulting in heterogeneity in the way MH and wellbeing policy is designed and implemented across the country's 127 NSOs (Silvester et al., 2024). Given the unique nature of high-performance sports, therefore, it is currently unclear how MHA has been applied to the Aotearoa/New Zealand context.

Culturally, it is unclear to what degree international MHA procedures are responsive to the unique cultural and ethnic background of Aotearoa/New Zealand. Socio-culturally diverse populations, such as Māori and Pasifika, have unique models of health which can implicate the way MIH manifests and subsequently, the way that it is measured. For instance, connection with whenua/land is a key determinant of health for Māori (Rochford, 2004) which may not be indexed by international MHA questionnaires, tools, and procedures. Indeed, previous research has shown that internationally-derived measures, such as the Symptom Checklist-90-Revised, do not accurately assess Māori health (Barker-Collo, 2003; Bennett et al., 2014). Given that Māori and Pasifika have the highest participation in recreational sports (Wong et al., 2016), and make up a high proportion of high-performance athletes in popular sports such as rugby and rugby league (Field, 2013; National Rugby League, 2016), MHA needs to be culturally informed to avoid the perpetuation of inequitable access to mental and physical healthcare.

Aims and scope of this study

Because of the unique features discussed above, this study aimed to explore how current mental health screening procedures are perceived by athletes and whether these are meeting athlete needs. Specifically, this study sought to answer three research questions associated: (1) What forms of MHA have athletes experienced within high-performance sports in Aotearoa/New Zealand?; (2) What are the experiences that athletes have had with this assessment?; and, (3) Are there ways in which MHA could be improved?

Methodology

Positionality

This study is situated at the beginning of a wider project that aims to assess, and improve, the current MHA in Aotearoa/New Zealand high-performance sporting environments. Liesje Donkin is a female New Zealand European clinical psychologist and Associate Professor in psychology, Connor Silvester is a male Māori psychologist working in sport and rehabilitation, Lecturer, and pursuing a PhD, Patria Hume is a female New Zealand European professor of biomechanics who was also an elite athlete and coach, and Trevor Clark is a male Māori health and sports researcher, who was also a professional Rugby league player and coach. None of the research team were employed by National Sports Organisations, all working in academic or public areas. The research team had diverse cultural and professional backgrounds to increase reflexivity.

Study design and theoretical underpinning

A pragmatist epistemology aligned with our research for two reasons. First, pragmatism emphasises that while there is an objective reality that exists apart from human experience, reality is grounded in the environment and can only be encountered through human experience (Kaushik & Walsh, 2019; Morgan, 2013). Second, because pragmatism rejects the notion that reality can be definitely determined, the philosophy argues that a variety of methods can be selected by the researcher to appropriately answer the research

questions (Kaushik & Walsh, 2019). Therefore, this approach allowed us to design a mixed-methods study that was responsive to the needs of the sample, but which still allowed us to emphasise athlete perspective. Specifically, this study employed a convergent parallel design (Creswell & Creswell, 2017), in which qualitative and quantitative data were collected concurrently, analysed separately, and then integrated. This design was selected to capture both statistical trends and the nuanced experiences of athletes, enabling triangulation and enhancing validity. Given the research questions, greater emphases were placed on open-ended questions and qualitative analysis of participant responses. Some close-ended questions were asked so that descriptive statistics could be produced for communicability and interpretability within high-performance sports environments.

Participants

Study participants were 74 high-performance athletes, as defined by the Participant Classification Framework (PCF; McKay et al., 2022). The demographic information of this sample is outlined in Table 1. The PCF represents a 6-tiered, standardised framework that uses training volume and performance metrics to classify a participant's level of sporting calibre. For inclusion in the current study, Tier 3 was set as the minimum based on the recommendations of McKay and colleagues (2022) and was confirmed using the standardised questions provided by the PCF. This tier of performance represents athletes competing at national or international levels, completing structured and periodised training, and developing towards maximal norms within the sport. Tier 3 athletes represent a "sweet spot" for athlete research; their performance and training level mean they have insight into, and experience, the stressors of the high-performance, whilst simultaneously having higher availability for research compared to athletes at higher

Table 1. Sample demographic information.

Demographic variable	Athlete
Age (mean)	25.9
Gender (% male)	53%
Gender (% female)	47%
Ethnicity (%)	
<i>NZ European</i>	51%
<i>Māori</i>	15%
<i>Pasifika</i>	26%
<i>Asian</i>	5%
<i>European</i>	1%
<i>Other</i>	2%
Participant Classification (%)	
<i>Tier 3</i>	45%
<i>Tier 4</i>	47%
<i>Tier 5</i>	8%
Retirement Status (%)	
<i>Current athlete</i>	90%
<i>Retired athlete</i>	10%
Disability Status (%)	
<i>Able-bodied</i>	100%
<i>Disabled</i>	0%
Sports Type	
<i>Podium</i>	21%
<i>Aspirational</i>	57%
<i>Unfunded</i>	21%

competitive levels, who typically have less time available to engage in research. Of the 74 athletes recruited in this study, 33 (45%) were Tier 3, 35 (47%) were Tier 4, and 6 (8%) were Tier 5.

During study design, National Sporting Organisations were concerned the study may be disadvantageous given the current public critiques around care provided to athletes (Heron et al., 2022). Consequently, it was agreed that the explicit sport of participants would not be reported. Broadly, however, participants were representatives of 28 different sports. Broken down by the Targeted Investment Framework, which is the two-tier HPSNZ funding framework, six of these sports received the highest level of funding as “Podium” sports, 16 of these sports received moderate funding as “Aspirational” sports, while six of these sports received minimal funding and were not sports included in the Targeted Investment Framework.

Participants were also eligible for inclusion if they had competed in the previous five years, meaning retired athletes were also eligible for inclusion. It was determined that recently retired athletes would be able to provide perspectives on recent practices in a manner that current athletes might not, particularly given that MH stigma often influences the way athletes engage in MH support and research (Bauman, 2016). Finally, for inclusion, athletes had to be actively residing in Aotearoa/New Zealand. Athletes were still eligible if they were competing overseas for a fixed term, however.

Data collection

Measurement

An online, mixed-methods survey was used to examine participant experiences with MHA. This method has shown effectiveness at investigating potentially sensitive information amongst a dispersed or hard-to-engage population, such as high-performance athletes (Braun et al., 2021). Questions were novel, but were informed by a recent systematic review, which investigated methods of assessing patient satisfaction with MH services (Miglietta et al., 2018). Because these recommendations were not specific to athlete samples, questions were reviewed or trialled with a high-performance athlete, sporting support staff, a clinical psychologist, and a cultural stakeholder to inform question appropriateness. Survey length was designed to achieve balance between participant burden and depth of content (Braun et al., 2021).

Section one consisted of nine demographic questions investigating age, gender, ethnicity, sporting competition level, disability status, sporting code, country of competition, retirement status, and home country. Section variables were based on previous research highlighting their associations with athlete MH (Gouttebauge et al., 2019; Rice et al., 2019; Rice et al., 2016). While the questions were closed-ended in nature, the response section was open-ended to increase the control individuals had in defining themselves (Braun et al., 2021). Section two included four questions that assessed current MHA and an athlete’s experiences and perspectives of this. Question one was purposefully designed as open-ended in nature and asked participants to describe the MHA in their sporting environment, rather than giving them pre-determined responses so further insight into variations of MHA could be constructed. Question two, three, and four assessed satisfactions with current MHA, support accessibility, and how this assessment could be improved using a combined open – and closed-ended response format (e.g., Do you

think that the way that mental well-being is assessed in your sport could be improved? If so, how?). In alignment with the convergent parallel design, both qualitative and quantitative data were collected concurrently within the survey. This simultaneous collection ensured that responses to qualitative questions were informed by their real-time experiences with the quantitative components, facilitating an integrated analysis at the interpretation stage. Participants could respond to questions using written responses or by verbally recording their response, a feature incorporated using the Phonic.ai widget to increase accessibility for athletes of various literacy and disability statuses. This was also recommended during cultural consultation, given the oral history of the Māori language (Marshall & Peters, 1989). When responding, 15% of respondents utilised this verbal feature. Verbal responses to questions had a minimum length of nine words, a maximum length of 275 words, and an average length of 110 words. In comparison, text responses had a minimum length of two words, a maximum length of 161 words, and an average length of 23 words.

Procedure

The online questionnaire was distributed using QualtricsXM. Participants were recruited using purposive and snowball approaches. Specifically, the contact details of the 127 National Sporting Organisations (NSOs) were extracted from the High-Performance Sports New Zealand (HPSNZ) website. Using these contact details, emails including the study information and a link to the electronic survey were sent during July, August, and October of 2023. One initial email and one follow-up email was sent to each organisation. We purposefully included all NSO's, regardless of professional and funding level of the sport, in order to capture athletes from a broad range of sporting backgrounds. The survey was also advertised electronically through the researchers' networks, and participants were encouraged to share the survey with their colleagues and teammates to facilitate snowball recruitment. The survey was open for five months, between July 2023 and November 2023. Through this recruitment strategy, the survey landing page was visited by 330 unique users. Two hundred forty-eight individuals viewed the study information sheet, with 145 individuals beginning and 74 completing the survey.

Data analysis

Participant responses across all sections were analysed using codebook thematic analysis, informed by the inductive and deductive approaches of Fereday and Muir-Cochrane (2006). To develop and identify codes for analysis, a preliminary codebook was developed through consideration of the research questions, the initial analysis of the literature, consultation with stakeholders, and a preliminary scan of the data (Roberts et al., 2019).

When survey responses were completed, they were extracted from Qualtrics and entered into a word document. REDACTED and REDACTED independently conducted first reads of these documents, where "codable" data was highlighted, and comments inserted into the margins. As researchers engaged with the data through the analysis process, inductive codes arose which were then applied and analysed across all participant responses. This meant that the thematic analysis was recursive, moving forward and backwards through the data familiarisation, coding, developing themes, and writing up (Braun & Clarke, 2021). Codes were reviewed by researchers and stakeholders

until agreement that the codes sufficiently represented the spread of data, and then a final coding of all participant responses occurred. These qualitative and quantitative codes were initially analysed separately following the parallel approach but were then compared through data integration, by identifying areas of convergence (e.g., high agreement that informal assessment lacks confidentiality) and divergence (e.g., qualitative reports suggesting informal assessment is helpful, despite quantitative data showing dissatisfaction). When divergence emerged, reflexive discussions among stakeholders and theoretical explanations (e.g., the role of mental health stigma in self-report measures) allowed for a more nuanced understanding of results.

Quantitative

To answer research question one and provide insight into the current MHA available to athletes, the codes identified to participant response in question one and two of the survey were quantitatively analysed. For question one, for instance, three codes were developed to represent participant responses; MHA that was formal, MHA that was informal, and no access to MHA. The specific coding criteria for this process is outlined in Table 2. Inter-rater reliability in this process was calculated using the formula suggested by Miles and Huberman (1994), revealing high reliability (0.93). Participant responses to closed-ended portion of questions two, three, and four were summarised to generate

Table 2. Example of code definition from the code book.

Code Label	Definition	Qualifications or exclusions	Example
Formal MHA	Presence of regular, structured MHA conducted by a specific MH professional. This MHA is designed to measure the wellbeing of the athlete and specifically informs subsequent MH recommendations and therapeutic input (if required).	Qualifies if: describes meeting with specific MH professional for MHA specifically. Excluded if: participant describes access to MH professional but discusses their role as improving performance; participant must initiate MHA (this is considered support seeking, and incongruent with formal MHA).	<i>We have regular online meetings (or in person if you are in NZ) with our life advisors and sports psychologist. They make sure everything within our sport and outside of sport are going well making sure we have no issues, physically/mentally. A014</i>
Informal MHA	Presence of assessment, that is unstructured, intermittent, involving non-clinical staff members, and teammates, and which may not directly inform subsequent treatment recommendations.	Qualifies if: discuss MH with non-clinical staff; have input with MH clinician that might not be structured/regular; includes discussing MH with supports Excluded if: non-descript discussion of support rather than assessment; access of support rather than discussing MH	<i>We haven't done any mental health assessment, probably have discussed my mental well-being more so with my physio in an informal way kind of like in a way where you just confide in them while they're treating you for physical ailments. A029</i>
No MHA	Explicit or implicit description of lack of assessment.	Qualifies if: discuss MH/social support rather than specific assessment or discussion of current MH status	<i>It isn't. There has been a history of pressuring athletes to compete at certain competitions with no experience, and then no preparation or follow up to prepare them for the mental anguish that is experienced competing at a high level. A001</i>

proportions of participants that believed the MHA they described was sufficient and could be improved. Additionally, Chi-square tests of independence investigated whether responses differed between athletes with varying levels of MHA or demographic backgrounds.

Qualitative

To provide greater insight into athlete experience with MHA (research question two) and whether MHA could be improved (research question three), a thematic analysis was conducted following the construction of the codebook and attribution of codes. Specifically, REDACTED and REDACTED met to collaboratively analyse the data using a displaying technique, which refers to the process of discovering connections between categories and concepts using maps and matrixes. Specifically, during this process the researchers exported all “codable moments” (Roberts et al., 2019) to an electronic mapping software, which were then reviewed, mapped, and grouped until coders agreed that the data was a sufficient true representation of a theme. As per the recommendations of Roberts and colleagues (2019), reoccurring themes were identified, but not necessarily given greater credence over single codable moments that encapsulated a grouping. These grouped themes were then presented to the wider research stakeholder group, for reflexive feedback from sporting-related professionals. Once themes were confirmed, named, and described, they were written.

Quality, rigour, and ethical considerations

To ensure the quality and rigour in the study, we followed Braun and Clarke’s (Braun & Clarke, 2006) 15-point checklist for thematic analysis. This checklist was applied to guide a systematic and transparent analytic process across transcription, coding, theme development, and reporting. Specifically, all verbal and written responses were transcribed in full, with audio transcripts reviewed to ensure familiarity and accuracy. Each data item was given equal attention, and coding was conducted comprehensively using codes derived inductively and deductively. Codes were developed across the full dataset to ensuring that themes were representative of the broader sample.

Themes were reviewed collaboratively and iteratively by the co-authors, with an emphasis on coherence and consistency. Thematic development was recursive, as explained above. Data extracts were collated for each theme and used in the results to demonstrate a balance between analytic interpretation and participant voice. The analysis aimed to provide a coherent narrative of the data, attending to both convergences and divergences in athlete experience, particularly across cultural and organisational contexts. Sufficient time was allocated to each phase of the analytic process, and the assumptions underpinning our use of thematic analysis were made explicit. The analytic decisions made throughout the study were clearly described, and the role of the researcher was understood as active in theme development, rather than assuming that themes simply emerged from the data.

While Braun and Clarke’s checklist supported the core design and analytic process of the study, we also incorporated Lincoln (1985) trustworthiness criteria to supplement areas less explicitly addressed in the checklist. We determined that these criteria were particularly relevant to the use of structured coding in a mixed-methods design. More

recently Braun and Clarke (2021) have argued for greater clarity in differentiating approaches to thematic analysis. Indeed, they explicitly discussed codebook analysis and highlighted the tensions between qualitative reflexivity and structured coding approaches, cautioning against uncritical methodological integrations that result in theoretical and conceptual incoherence. This redefinition creates limitations when applying RTA frameworks to structured or mixed-methods designs.

Consequently, to ensure the rigour of our mixed methods, pragmatistic design, we included Lincoln (1985) approaches to supplement Braun and Clarke's rigour checklist. From a pragmatist perspective, specifically, these approaches aimed to increase alignment between the research methods, researchers, and the practical context of the study. *Credibility* was ensured by engaging in fortnightly debrief sessions between all authors for the duration of the study. Given the varying positionality of the researchers, these meetings allowed the researchers conducting analyses to iteratively refine the design and results of the study with a focus on practical application. A detailed description of study participants, positionality of researchers, and methods contributed to *Transferability* and *Dependability* as these descriptions ensure that the results can be interpreted in the context and reality of the research paradigm. Finally, *Confirmability* was integrated by ensuring that inductive theme generation was included, meaning that the findings and themes produced reflected the experience of athletes in Aotearoa/New Zealand. To ensure ethical practice, ethical approval for the study was granted by the institutional ethics board on 31st of May, 2023 (Reference number 23/118). In addition, this study adhered to all items on the Standards for Reporting Qualitative Research checklist (O'Brien et al., 2014).

Results

To explore the first research question, participant experiences were quantitatively analysed to provide descriptive statistical overview of current MHA in Aotearoa/New Zealand athletes and is presented in section one. Descriptions of the experience of MHA and possible improvements to MHA, in association with research question two and three, are then outlined in section two and three.

Section one: what forms of MHA have athletes experienced?

Across the sample, twenty-two per cent of athletes accessed formalised MHA and 25% to informal MHA, while 53% did not have access to any assessment within the high-performance sporting environment. The accessibility and form of MHA appeared to differ based on the competitive status of athletes. Specifically, the proportion of athletes reporting access to formal MHA increased as their tier of competition increased. For instance, 67% of Tier 5 athletes reported formal MHA, compared to 26% of Tier 4 athletes and 10% of Tier 3 athletes. Informal MHA was available to 16% of Tier 5, 23% of Tier 4, and 28% of Tier 3 athletes. Finally, 16% of Tier 5, 51% of Tier 4, and 63% of Tier 3 participants reported having no access to MHA. A Chi-square test of independence examined the relationship between sporting tier and assessment type. The results indicated a significant association between tier and assessment type, $\chi^2(4, N = 73) = 10.403, p = .034$. The effect size, as measured by Cramer's *V*, was 0.267, suggesting a moderate association

between tier and assessment type. No group differences emerged in MHA availability, sufficiency, or improvement perspectives.

Across the whole sample, 10% of athletes believed current assessment was sufficient, 35% reported assessment was partially sufficient, and 55% of athletes believed current MHA approaches were insufficient. Similarly, 89% of athletes believed assessment in the high-performance environment generally could be improved, while 11% of athletes believed MHA required no improvement. When analysing responses only from those participants who had current access to MHA, 22% believed MHA was sufficient, 47% believed that current approaches were partially sufficient, and 31% believed current MHA approaches were insufficient. Interestingly, while 79% of athletes believed that the formal MHA in their environment was sufficient or partially sufficient, 85% still believed that MHA needed to be improved. A Chi-square test of independence was conducted to examine the relationship between assessment type and sufficiency. The results indicated a significant association between assessment type and sufficiency, $\chi^2(2, N = 71) = 13.699, p = .001$. The effect size, as measured by Cramer's V, was 0.439, suggesting a moderate to strong association between assessment type and sufficiency. No relationship was found between assessment type and suggested improvements, suggesting all assessment could be improved.

Section two: what experiences did athletes have with assessment?

Informal assessment can be a double-edged sword

Participants often discussed differing experiences of formal and informal means of assessment. Formal assessment, within this study, referred to assessment that appears structured, involving dedicated MH professionals, and informs subsequent support recommendations. In contrast, informal assessment was unstructured, intermittent, involving non-clinical staff members, and which may not directly inform subsequent treatment recommendations. Participants experienced informal assessment as a cost-effective, easy to access, form of support that contributed to positive relationships:

A035, Female, New Zealand European, Tier 4: "Strong coach-athlete relationship, this includes check-ins about how I am doing as both an athlete and a person, student. It is a consistent, fairly informal approach that lets me keep in touch with how I am doing to be able to relay this to my coaches. It helps me to navigate my roles in my sport and in other areas of my life."
(Written response)

However, participants also explained that informal MHA lost its effectiveness for three reasons. First, the informal nature of the assessment is a double-edged sword, wherein it makes it easier to both access assessment and to conceal MIH or avoid MHA. For instance, one participant explained how informal assessment suited some individuals, but not others:

A074, Female, New Zealand European, Tier 3: "some people, physically need to be almost, say, tracked down to have a chat to see how they're going and it's up to someone whether they share how they're doing or not. But I feel like, um, maybe scheduled catch-up, maybe like once a month or something or like a little survey they get sent out. I think just to get a good idea because a lot of the time it goes unspoken for the whole season."
(Verbal response)

The second reason informal assessment was limited was due to the lack of clinical skills that informal sources of MHA possessed and the need to upskill these individuals:

A040, Female, New Zealand European, Tier 4: "I don't believe coaches truly appreciate MH and if you have a problem, they have no idea what to do or how to manage it. I also don't believe they know what to look for. I think there needs to be more information provided to everyone involved in an athlete's life regarding mental wellbeing." (Written response)

Third, participants expressed dissatisfaction with the confidentiality and potential conflicts of interest in informal assessment paradigms. While formal assessment is conducted by an individual who is often external to the performance environment, informal assessment is often conducted by those who are central to determining an individual's career progression. Indeed, this limited their comfort with informal assessments and athletes would look elsewhere.

Together, these perspectives suggested that the benefits of informal assessment were prone to a ceiling effect; when the psychological demands of athletes exceeded a certain level, informal supports (i.e., the individuals providing informal MHA) were limited in their capacity to offer accurate assessment that provided sufficient level of care. In an ideal scenario, informal MHA should be combined with formal assessments, to ensure that athletes feel supported and connected to their community, while also having the security of confidential psychological support. Unfortunately, this approach may be a costly, complex, and iterative process that is not feasible within all environments.

Assessment improves uptake and efficacy of mental health support

Participants outlined a variety of barriers (e.g., financial, relationship, confidentiality, and accessibility-associated barriers) that inhibited their access to MH support. Within Aotearoa/New Zealand, MH support is broadly representative of support provided by psychologists, mental skills coaches, sports chaplains, and player union representatives. For instance, one participant explained that while MH support was attractive, the personal costs prohibited them from accessing support after organisational funding ran out.

Similarly, participants often explained that the fear of rejection and "*the fear of looking weak*" (A026, Male, Māori, Tier 3) were significant barriers to accessing MH support. Broadly, participants explained how these difficulties were often associated with the differences in resources associated with organisational and funding factors of the high-performance environment.

A038, Female, New Zealand European, Tier 4: "would be accessible but at personal cost; not resourced by the National Sports Organisation due to not being considered as part of the High-Performance Catchment despite involvement in [international competition]. This lack of support is part of a wider problem because the lack of payment and investment and resource means any self-funding gets prioritised in other areas." (Written response)

In contrast, other participants discussed the role that MHA played in removing these barriers. Participants explained that assessment removed the costs associated with accessing support, increased ease of accessing MH support through facilitating onward referral, and increased visibility and confidence they had in accessing this support. For instance, one participant described how an in-house psychologist increased general accessibility of support and MH outcomes for an individual.

A012, Female, Samoan, Tier 4: "So, we're currently in camp at the moment. So, it's been a lot easier for us to connect as a team with our sports psych we've got going. So, she's based with us too. So, we can see her from one-on-one during the week or she comes in once every two weeks to do a workshop with us as a team, Which is really fortunate. Because I, I just reach out to her, send her a message saying, "Oh my God!, Help me!" and I'll just book in a slot and we'll get everything cleared up." (Verbal response)

Similarly, another participant explained that MHA removed barriers to access, made it *"hard to fall through the cracks"* (A065, Male, New Zealand European) and removed the onus placed on the athlete to initiate MH disclosure. Finally, another participant outlined how MHA can contribute to improved relationships and a sense of trust between athletes and support staff because *"knowing you are supported and that your coaches are concerned for your well-being makes me feel comfortable being able to share any issues can build into the dynamic of the teams"* (A032, Female, New Zealand European).

In summary, should an individual perceive high financial or reputational costs of accessing support, they were unlikely to engage in support seeking. Positively, assessment successfully reduced perceived these barriers to support. Specifically, MHA did not require the athlete to initiate the conversation, which removed fears of repercussions to their career and fear of being rejected or invalidated. Additionally, MHA removed financial costs, threats to career, and time constraints for participants, which removed barriers and increased the perceived benefits and effectiveness of support.

Assessment may address mental health stigma and reappraise stressors

In addition to removing practical barriers to accessing support, MHA may remove perceived and social barriers to support. High-performance athletes reside within a high-stress, fast-paced environment filled with unique stressors that can impact an individual's MH. While such an environment is not unique in itself, participants often experienced a culture that demanded a certain level of mental toughness and an expectation to push MH challenges aside. Participants often explained that it was a popularly held opinion that as an elite athlete, MH stigma made them feel they needed to be *"the strongest and the toughest"* (A062) and to seek help meant *"you are letting that appearance down"* (A075). One participant specifically emphasised how the expectations of high-performance athletes influenced the way MH is experienced, and that as a result *"we should be at least screened; we should not have to seek out MH support ourselves."* (A029, Female, Māori,)

While the reports of MH stigma were pronounced, participants outlined how certain features of MHA could challenge this stigma. Participants explained that when they experienced open and honest conversations with those around them about MH, this would challenge the perspective that it *"wasn't okay, to not be okay"*. These conversations appeared particularly effective when they were embedded in the sport at an organisational level, and occurred with staff members that athletes were close to:

A018, Female, New Zealand European, Tier 4: "I have relatively regular check-ups with my coach, maybe once every 1–2 weeks. We normally discuss how I'm feeling, where I'm at on my menstrual cycle, anything that is bothering me or stressing me out or suggestions I have. He will help me decide if we need to progress something further to help my well-being out e.g., contacting our sports psychologist. Often, I will take charge of my own well-being and will inform him that I am planning to do something for my well-being, and usually just seek approval for this." (Written response)

Participants offered further insight into this relationship, discussing how MHA was particularly beneficial as it allowed them to change the way they perceived and appraised their MH experiences. Specifically, MHA helped participants appraise MH stress as manageable, transient, and normal. As a result, athletes were more likely to see the need for MH support. One participant described their experiences within two environments that did and did not screen for MH, and how this impacted their ability to appraise and understand their experiences:

A029, Female, Māori, Tier 4: “So, we have a mental skills coach in my team. In the past, we’ve had a clinical psychologist who specialises in sport. And so, I guess in the past I have gone to the clinical psychologist and used them. However, this year due to funding or availability, we’ve just had a mental skills coach. We haven’t done any mental health assessment. I probably have discussed my mental well-being more so with my physio in an informal way, I guess in a way where you just confide in them while they’re treating you for physical ailments. I don’t think that’s sufficient because without it [assessment] there’s no way that they would know that we’re mentally well and some of the things that happen in the environment don’t support mental wellness.” (Verbal response)

This effect generalised not only to disclosing MH, but also to normalising engagement with MH resources. In that, because it removed barriers, MHA could also increase the specificity with which psychological interventions could be delivered. For some athletes, MH resources were general without relating it to the individual or group context. In contrast, however, MHA could allow staff to understand each athlete individually and tailor MH support to each athlete. This meant that athletes could understand why MH input was valuable in their context, increasing perceived value and reducing self-stigmatisation for receiving MH support.

In summary, participants explained that to operate at the highest level, athletes often believe they are expected to maintain a certain level of “mental toughness”. This stigma, predictably, could impact both the individual’s willingness to disclose MH. Positively, MHA, particularly when it was structured and organisationally supported, begins to increase an athlete’s willingness to access support by providing safe avenues for discussing their MH and by allowing them to reappraise and reinterpret their experiences as less threatening, and more workable. Together, these two components began to challenge stigma.

Experience with assessment differed for Māori and Pasifika

Participants noted that their experience with MHA was impacted by a cultural congruence between cultural norms for discussing MH, and the way that MHA was designed in their sporting environment. Interestingly, in their responses, Māori and Pasifika respondents tended to use cultural norms for discussing MH, rather than reflecting on the specific MHA assessments in their environment. For many Pasifika respondents, for instance, MH was often incongruent with their cultural practices and norms, and this appeared most pronounced for males.

A056, Male, Samoan, Tier 4: “Yes, as a Samoan in this age, typically in our culture in the islands there’s no such thing as “mental well-being.” Our parents and their parents and so on were never taught to talk about what they are feeling mentally or what’s on their mind. Therefore, over generations that same teaching is taught right through hence why our brown brothers have one of the highest suicide rates.” (Written response).

Māori and Pasifika participants emphasised that culturally specific factors such as faith and whānau/family might not be integrated into current MHA approaches. Māori and Pasifika participants commonly emphasised the role that faith played in their MHA, for instance; *“Not engaged, not showing up, not performing, this could be for sports and whanau and church”* (Māori, Male, Tier 4). Similarly, Māori and Pasifika participants often explained that because of the role that whānau/family play in collectivist cultures, pressure from family can become a risk factor. Specifically, athletes from Māori and Pasifika backgrounds are often thrust into a role of responsibility and expected to provide for whānau. As described in the extract below, these “old rules” are often not incorporated into current MHA approaches: *“being a Pacific Islander, demands from your family etc is a lot higher. There are old rules that some off is still need to abide in a pacific house hold”* (A058, Male, Tongan)

For some participants, this cultural incongruence contributed to a tendency to conceal parts of oneself, and culturally assimilate to the high-performance environment. As described in the extract below, one participant explained that they struggled to embrace their Samoan culture because it wasn’t represented around them in the high-performance space. For Māori and Pasifika athletes, the feeling of incongruence between their cultural norms and what they see around them could contribute to a stigma in which they are reluctant to accurately engage with traditional MHA.

A012, Female, Samoan/Kiwi, Tier 4: *“I’m half Samoan. And I found that hard growing up in a sense to figure out who I was because I just, I have presented as Kiwi for so long and just knew that was part of me and wanted to know more about it, but didn’t know how and didn’t see it represented as much, especially in the football space And I’m still getting there to this day; I still don’t know how to talk about it”* (Verbal response).

Section three: how can assessment be improved?

Incorporation of cultural values

As discussed in theme four, incongruence between athlete culture and the form of MHA can impact an athlete’s experience with, and engagement in, MHA. Positively, however, incorporating cultural principles, such as values, traditions, and language within the sporting environment appeared to facilitate a sense of comfort and trust with assessment and help-seeking:

A029, Female, Māori, Tier 4: *“Yeah, I think being a Māori athlete [it] helps that I’m in a team that embraces my culture, we say before (karakia/prayer) and to start off training and to conclude training, we incorporate Māori words into our values, um, and into our play. Māori and Pacific cultures are very important because probably make up half, if not more than half, of the population of [my sport] players, especially, at the elite level. I definitely think that it would, it makes it easier because it makes it feel more comfortable, makes me feel like I’m home.”* (Verbal response).

Similarly, participants described that representation and shared culture made a significant difference in increasing the efficacy of MHA. This recommendation encompassed both the incorporation of Māori and Pasifika clinicians, but also the inclusion of content in MHA that was culturally specific and responsive. For instance, *“I think representation is a big one. Seeing the diversity in the sport, I think can help with well-being. Just seeing that someone else out there who’s just similar to you, similar to your upbringing, to your background”* (A012, Female, Samoan, Tier 4).

In summary, there needs to be congruence between cultural norms and how MH is assessed within the high-performance environment. Currently, a Western, individualised approach to MHA is commonly utilised, and that this can stigmatise individuals into believing that their culture and well-being cannot or should not be discussed. Positively, however, when cultural principles were incorporated into the high-performance environment, participants reported an increased motivation and comfort in engaging.

Formalising informal assessment

Participants proposed three ways to address limitations with current informal assessment paradigms. Participants explained that informal supports, including other athletes and support staff, would benefit from upskilling to improve support efficacy. Strategies participants suggested included how to initiate MH conversations, how to recognise someone who is struggling, and what to say to support them. For instance:

A026, Male, Māori, Tier 3: "Teaching players that coaches act to help them will help. Teaching coaches how their actions affect players might also help."

A061, Male, Samoan, Tier 5: "I think we all know what it's like, but no one knows what to say if shit is bad other than the "she'll be right" or "harden up" culture." (Written response)

MHA needs to be specific and actionable. Participants regularly commented how damaging it could be when they expressed distress but there was no response to this. Consequently, informal assessment needs to be accompanied by an active response and strategies. According to participants, the nature of the follow-up (whether formal or informal) is unimportant; what is important is that participants feel heard and that their disclosure serves as a catalyst for action.

Athletes should be provided information regarding independent, external support. Participants commonly outlined a preference for accessing support through outside organisations, but similarly expressed that it could be difficult to know where to go. By offering recommendations for an external provider, organisations can both support athletes but also normalise the barriers that are inherent in informal assessment. For instance, some organisations had player development (PD) managers that were not clinically trained and not fully integrated in the high-performance environment, meaning they felt comfortable accessing this individual's recommendations for ways to get help. For instance, one participant explained that accessing support "*Would be easy just call and ask for help we can also contact our PD manager and she can give us over to Doctor Stress*". (A054, Male, Samoan, Tier 4, Written). Together, these three recommendations are cost-effective and approaches that improve the effectiveness of informal assessment, which is particularly relevant for contexts limited by resource availability.

Discussion

To explore how MHA procedures are perceived by athletes and whether these are meeting athlete needs, this study investigated what forms of MHA athletes experienced, their perspectives of these, and whether these could be improved. In terms of the forms of MHA available in Aotearoa/New Zealand, athletes differentiated between MHA that was reliable, consistent, and purposeful in nature (formal), and MHA that was variable in its

purpose, timing, and the personnel conducting assessment (informal). Unfortunately, the accessibility of MHA for Aotearoa/New Zealand athletes was variable. Specifically, over half of participants did not have access to any form of MHA, 22% of participants had access to formal MHA, with the remaining 25% relying on informal support from those around them. Athletes of higher professional status, specifically Tier 5 athletes, had significantly greater access to formal MHA compared to athletes of lower tiers. While this difference may be attributed to the financial and personnel costs associated with MHA (Vella et al., 2021), low levels of MH literacy and MH stigma may also present barriers to the incorporation of MHA into high-performance environments (Gorczynski et al., 2019). Consequently, these results suggest that further academic and organisational emphasis needs to be placed on the expansion of MHA in Aotearoa/New Zealand.

Justification for the incorporation of MHA into high-performance sporting environments comes from the positive experiences participants reported with formal MHA. Quantitatively, 79% of athletes believed formal MHA was sufficient, a significantly greater proportion than athletes with informal and no MHA. In fact, participants explained that MHA promoted well-being as it normalised discussions about MH, removed practical and perceived barriers to accessing support, and allowed participants to reappraise MH as something that can be addressed and managed. MHA appeared to have a significant effect in increasing an athlete's awareness of MH symptoms, promoting MH literacy, and destigmatising the prospect of accessing MH support. Given that MH stigma is strong within the sporting environment (Bauman, 2016), MHA in itself may represent a possible destigmatising intervention through reappraisal. Theoretically, the common-sense model of self-regulation (Leventhal et al., 2012) argues when an individual views stressors and symptoms of MH as unmanageable and their own responsibility, then they are unlikely to seek help for this. In contrast, however, if an individual appraises their MH experiences as manageable, transient, and abnormal, they are more likely to see the need for MH support. Consequently, further research investigating the role of appraisal in the high-performance environment, and the role of MHA and MH literacy in managing this, may be beneficial.

Additionally, athletes reported two ways in which MHA could be improved. First, current MHA is not culturally informed, which alienated some athletes of non-Western cultural origin. Māori and Pasifika athletes explained that current measurement approaches were often inconsistent or at odds with their cultural practices, and so they felt that it was not intended for them and therefore ineffective. Therefore, to ensure equitable provision of MH support, surveillance and MHA techniques need to incorporate or be sensitive to diverse cultural principles and techniques of assessment. For Māori, for instance, MHA needs to be informed by culturally specific models health, such as Te Whare Tapa Whā (Rochford, 2004), that measures an athletes taha whānau (family), taha wairua (spiritual), taha tinana (physical), taha whenua (land), and taha hinengaro (mental). In addition, participants explained the value of incorporating cultural practices, such as karakia/prayer and tikanga/cultural practices, and having access to Māori clinicians. For Pasifika, faith, spirituality, and the church are key determinants of health, and incorporating this into MHA could improve the cultural specificity of the support provided to Pasifika athletes. Considering that few sports psychology and mental skills consultants consider spirituality in their practice (Parry et al., 2011), Pasifika athletes may feel alienated by traditional MHA. Instead, the development of more holistic MHA measures and the

incorporation of Sport Chaplains, who provide holistic pastoral and spiritual care to athletes (Gamble et al., 2013), may improve the sensitivity of MHA for Pasifika populations.

Second, participants suggested cost-effective strategies for the improvement of informal MHA that would be accessible for sports with lower brackets of funding. Notably, the suggestion to upskill staff aligns with the concept of MH literacy, which is gathering increasing interest in the high-performance environment (Vella et al., 2021). Participants explained that because informal MHA can be unstructured, have low clinical efficacy, and limited confidentiality, it may be beneficial to upskill other athletes and support staff in initiating MH conversations, recognise someone who is struggling, and what to say to support them. Broadly, this aligns with the intentions of MH literacy interventions, which are designed to increase the “knowledge and beliefs about mental disorders which aid their recognition, management or prevention” (p. 182; Jorm et al., 1997). MH literacy interventions have demonstrated efficacy at increasing the support seeking of high-performance athletes when used with athletes, support staff, and athlete family/whānau (Bu et al., 2020). Consequently, MH literacy interventions may be one avenue through which MHA can be improved and embedded organisationally within a sporting organisation in a cost-effective manner which is more accessible for athletes of different professional levels.

These results raise interesting considerations for the balance between the demands of the high-performance environment and ethical requirements. The perspectives of participants in this study align with previous models, emphasising the need to adopt an ecological nature of MH support and include a range of sporting stakeholders in the early intervention process (Purcell et al., 2019). However, there is currently a lack of guidance regarding how this occurs within the boundaries of competent and ethical psychological practice. Indeed, according to participants in this study, informal assessments by unqualified individuals risked misinterpretation, breaches of confidentiality, and delayed access to appropriate care. For the mental skills coach, the sports chaplain, or the coach who the role of MHA can fall upon, it may be difficult to navigate the conflicts between the need for assessment and early intervention and the ethical constraints of their competency. Thus, ensuring clear role delineation, promoting interdisciplinary collaboration, and developing competency is essential to safeguarding athletes’ mental health and preventing harm.

Certain limitations must be considered when interpreting these results. First, the self-select nature of participation may limit the representative nature of the sample, as participants may have been more likely to participate if they had negative experiences of MH support within their environment. Additionally, qualitative surveys inherently limit the depth of data collection compared to other qualitative methods, as they do not allow for follow-up questioning to clarify responses, probe deeper into participant experiences, or explore emergent themes in real-time. This constraint may restrict the richness of insights and the ability to capture nuanced perspectives that could otherwise be elicited through interviews or focus groups. However, we found that participant accounts were rich and complex, and the option to verbally record responses took a step in addressing this limitation. The position of the researchers as external to sports organisations may have limited the distribution and engagement in the survey from some athlete/sporting organisations. While consultation with stakeholders informed the design of the study, the study was not supported or endorsed by sporting regulatory bodies within the country.

Thus, this may have limited the uniform distribution of the study to all high-performance athletes within the country. However, the heterogenous sporting background of participants, representing 28 different sports, suggest participant responses represent systemic variations across Aotearoa/New Zealand high-performance sports.

Future research should examine the implementation of standardised MHA protocols across different high-performance environments. For instance, research could quantitatively associate informal and formal MHA with different MH or help-seeking outcomes. Furthermore, emphases could be placed on developing guidance and training for coaches and non-clinical support staff to improve their capacity to recognise and respond to mental health concerns while ensuring ethical boundaries are maintained. These would need to be culturally responsive, meaning research is needed to develop culturally responsive MHA approaches, particularly for Māori and Pasifika athletes, by integrating culturally specific concepts of MH. Finally, these findings reinforce how MHA should not solely be viewed for pathology but also as a mechanism for supporting well-being. This aligns with Keyes (2002) and emerging literature, which suggests that support should not only reduce symptoms of MIH but similarly promote MWB. Therefore, research could explore how MHA can be designed to facilitate both early intervention and the enhancement of well-being in athletes.

Conclusion

The forms of MHA individuals have experienced within high-performance sports in Aotearoa/New Zealand include informal (e.g., coach discussions, ad-hoc in nature) and formal (e.g., sports psychologist, planned and scheduled) approaches. The effects MHA have had on individuals included removing barriers to access, contributing to improved relationships and a sense of trust between athletes and support staff, and addressing mental health stigma. The ways in which MHA could be improved are by considering cultural backgrounds and perspectives (particularly for Māori and Pasifika by using non-individualistic approaches to MH management), by upskilling support staff to improve informal assessment, embedding the response within the sporting organisation, and by providing active response strategies. In a population reporting high stressors and elevated rates of MIH, yet low rates of help seeking, these insights could guide sports organisations and clinicians in promoting MH disclosure and engagement with help-seeking.

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CRedit author statement

Connor Silvester: Conceptualisation, Methodology, Formal analysis, Resources, Data Curation, Writing- Original Draft, Writing- Review and Editing, Project Administration, Funding Acquisition. Liesje Donkin: Conceptualisation, Methodology, Formal analysis, Resources,

Data Curation, Writing- Review and Editing, Supervision, Funding Acquisition. Patria Hume: Conceptualisation, Methodology, Resources, Writing- Review and Editing, Supervision, Funding Acquisition. Trevor Clark: Conceptualisation, Methodology, Resources, Writing- Review and Editing, Supervision.

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Data availability statement

Data not available due to participant consent. Given the high-profile nature of the participants of this research, and the qualitative nature of the data, it was determined that making data publicly accessible would deter participants from participating. Consequently, the participants of this gave consent for their responses to be deidentified and included in project dissemination, however were assured that their responses would not be accessible by anyone outside of the research team. This was necessary in order to both encourage recruitment and to ensure the safety of participants.

ORCID

Connor Silvester  <http://orcid.org/0000-0002-8958-350X>

Patria A. Hume  <http://orcid.org/0000-0002-0457-8788>

Trevor Clark  <http://orcid.org/0000-0003-1847-8128>

Liesje Donkin  <http://orcid.org/0000-0002-2853-0068>

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