Evaluating the impact of a trail therapy programme

Developing Mountain Biking in Scotland

Edinburgh Napier UNIVERSITY

NatureScot Scotland's Nature Agency
NàdarAlba Buidheann Nàdair na h-Alba

TREK

Evaluating the impact of a trail therapy programme

By Dr. Hollie Fountain, Dr. Lesley Ingram-Sils, and Dr. Tony Westbury (Edinburgh Napier University).

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About this project

This report was produced by Edinburgh Napier University as part of Developing Mountain Biking in Scotland's programme of work on fostering mental health and wellbeing through mountain biking, funded by NatureScot.

The evaluation was based on interviews conducted by the research team at Edinburgh Napier University in October and November 2022. The interviews included individuals who had self-referred, or been prescribed through community/social prescription services, who suffer varying levels of mental ill-health. Interviews with those involved with the delivery of the programme including ride leaders, parents, and volunteers were also conducted.

Developing Mountain Biking in Scotland

Developing Mountain Biking in Scotland (DMBinS) is a strong voice for the mountain bike community. Mountain biking can play a role in making Scotland healthier. By increasing participation, through targeted programmes, we aim to help make our amazing country a healthier and happier nation. DMBinS is part of Scottish Cycling and promotes the Scottish MTB Health Fund which is governed by the Scottish Cycling Charitable Foundation (OSCR NO. SC051130)

Edinburgh Napier UNIVERSITY

Mountain Bike Centre Scotland

Mountain Bike Centre Scotland (hosted by academics and researchers at Edinburgh Napier University) provides research and consultancy expertise to the cycling industry on both a national and international stage. With a history of research in physical activity and health, we have experts who develop innovative solutions to support wellbeing.

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Developing mental health and wellbeing through MTB Trail Therapy

Developing Mountain Biking in Scotland

Developing Mountain Biking in Scotland deliver **social prescription** mountain biking programmes for people with **mental health** diagnoses.

To **evaluate** the impact on those involved, three riders and three ride facilitators were interviewed.

To date...

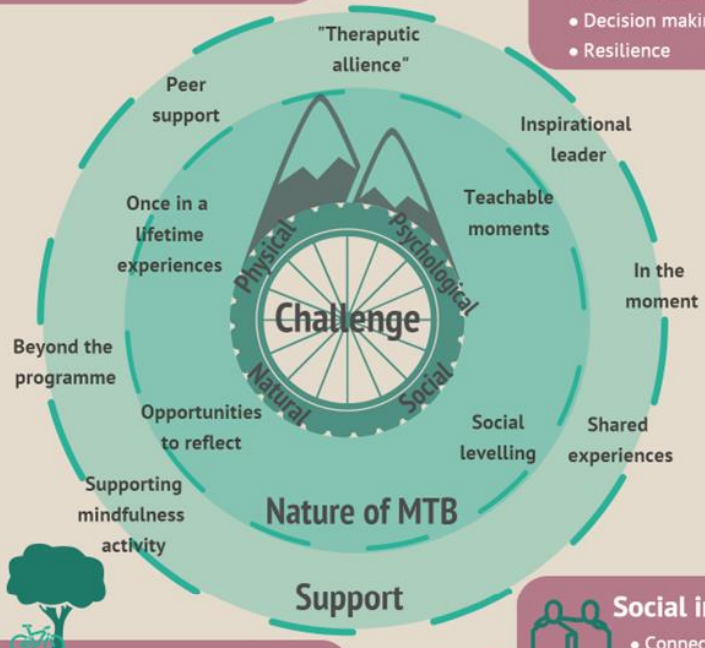
80+ Riders

100+ Sessions

6 Scottish locations

Physical impact
- Fitness
- MTB competencies
- Health

Psychological impact
- Autonomy
- Confidence & esteem
- Emotional regulation
- Mood
- Concentration
- Decision making
- Resilience



Social impact
- Connections to others
- Leadership skills
- Relationships

Impact of the natural environment
- Memories
- Respect
- Appreciation
- Connection
- Responsibility

> We can't save the world, but if we can have a good impact on one individual, that's one life saved, isn't it?

Developing Mountain Biking in Scotland · Edinburgh Napier University · TREK · NatureScot NàdarAlba

Introduction

Mental health is a growing concern within our communities, with the World Health Organisation reporting a 13% increase in mental health conditions recorded in the last ten years. The impact of such conditions is significant and wide-reaching, leaving many people unable to cope with the mental, physical, or social strains of everyday life.

"Physical activity in the presence of nature, a practice also known as green exercise, can provide additional health benefits and, thus, have greater value for preventing disease and enhancing population health in the population" (Lahard, 2019, p.2)

Pharmacological interventions and psychotherapies have been shown to have a moderate and variable effect on patient symptoms (Pigott, 2015), but their influence on poor physical health is unclear. As such, there has been increasing interest in the use of physical activity as a therapeutic strategy to protect against and treat those experiencing mental-ill health as well as poor physical health, which often coincide. Current evidence has shown that whilst exercising may not completely replace clinical based interventions for all, it can enhance mood, self-esteem, life-satisfaction, perceived social support, and also buffer stress responses (Buecker et al., 2021).

In addition to the body of evidence advocating the use of exercise as a non-medical intervention, prescribed physical activity in the natural environment has exhibited additional benefits. As well as being an impactful way of protecting and managing mental health, exercising in the outdoors has been shown to foster greater social interaction, directed attention, confidence, and enhanced life skills (Jimenez et al., 2021). In practice, involvement in schemes such as Health Walks (www.pathsforall.org.uk/walking-for-health) and surf therapy (www.waveproject.co.uk) has positively impacted those suffering with mental health challenges, through developing a more positive self-identity, and increasing both mood, and overall state of mind.

Mountain bike programs have been shown to increase "focus, competency, physical and mental wellbeing, and connection to the environment" (Brown et al., 2022, p.).

Mountain biking as a mode of "green exercise" is a popular and accessible form of adventure recreation across Scotland (Beedie, 2003). The sport is not exclusive to competitive racers or thrill seekers, and includes everyone who chooses to cycle off-road (DMBinS, 2019). However, mountain biking is considered to be on the 'extreme sport continuum' and has an inherent level of risk as participants balance their personal competence with the level of challenge (Roberts et al., 2018). It can be both physically and mentally demanding and

Mountain bikers have “reported copious benefits to mental health and wellbeing related to their engagement” (Roberts et al., 2018).

requires technical competence to follow varying trails across unfamiliar terrain (Taylor, 2010). The sport offers riders an array of opportunities, offering accessible trails for all levels and access to far-reaching locations. At a recreational level, mountain bikers have been shown to have strong social identities within a community designed to be inclusive of both new and experienced riders (McCormack, 2017).

Together, the combined benefits of both exercising in a natural 'green' environment (Lahart et al., 2019), exposure to the challenges inherent within mountain biking (Taylor, 2010; Houge et al., 2021), and connectedness with others (Loureiro etal., 2021), and have the potential to form an ideal non-medical, group intervention to aid those suffering with poor mental health.

Social prescription onto non-medical therapeutic interventions such as mountain biking trail therapy can be achieved through a number of channels, including; primary and secondary care practitioners, community-based Link Workers, pharmacists, self-referral, physical activity referral schemes (PARS), and via local third party organisations in the community, such as charities and social hubs. Social prescription plays an important role in broadening the reach of mental health services, providing support to those who may be considered “hard to reach”, and those who may not start or maintain lifestyle changes alone (Bickerdike et al., 2017).

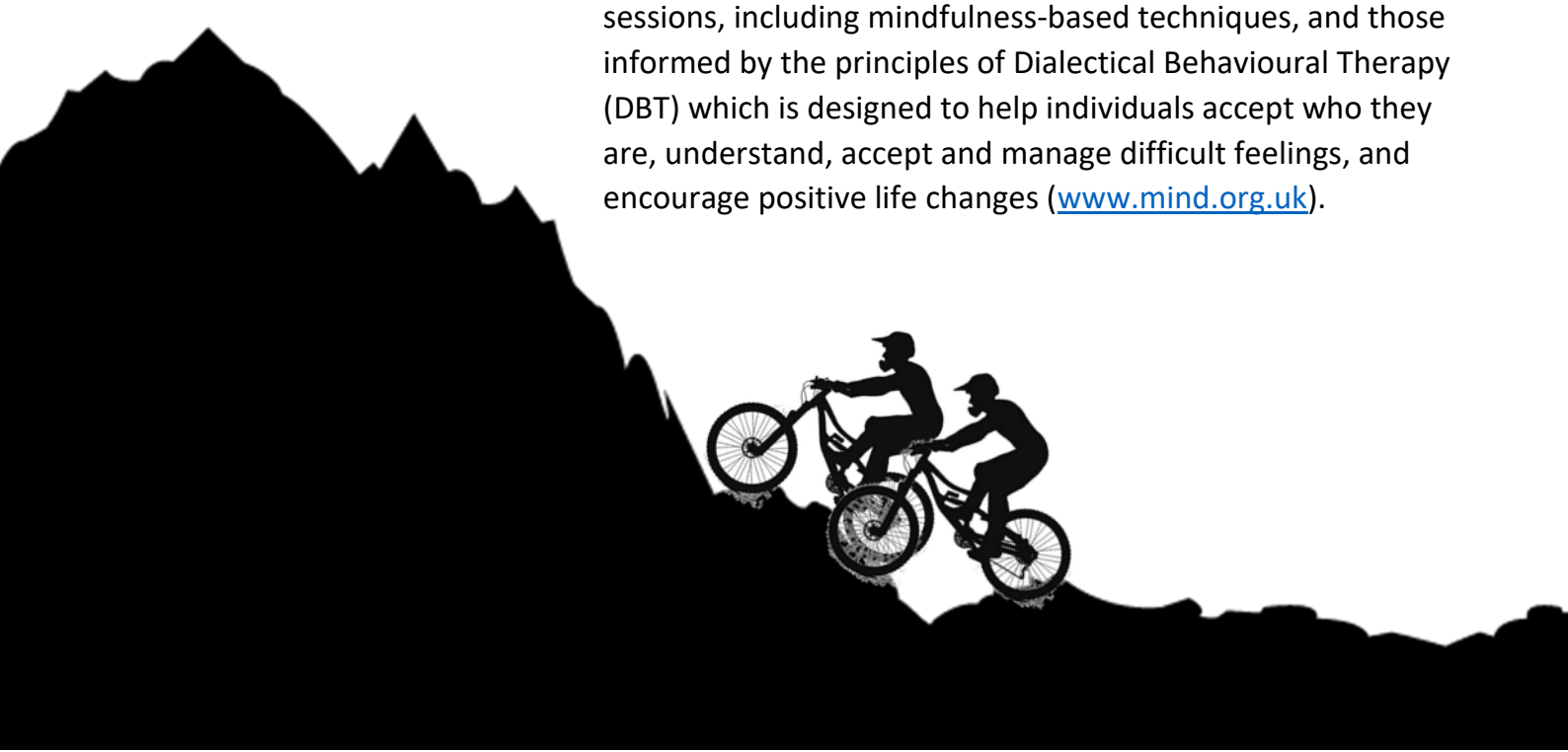
About the programme

The Developing Mountain Biking in Scotland (DMBinS) team have been running a trail therapy programme (a social prescription mountain biking programme) for over a year. Their aim is to share the joys and obtainable challenges of mountain biking with individuals who have an existing mental health diagnosis. The programme is designed to help riders grow in confidence, improve social interactions, establish skills of self-regulation, and accelerate their road to wellbeing (https://dmbins.com/health/trail-therapy/).

"As participants go through the programme, we hope to facilitate folk as they grow in confidence, improve their social interactions in a supportive environment, establish skills of self-regulation and accelerate their road to well-being" DMBinS

The trail therapy programme normally invites referred riders onto a 6-8 week block of sessions. It is the role of the qualified mountain bike leader to design and deliver the sessions with the riders' needs and physical/mental capabilities in mind. Because of this, no two sessions are the same, and flexibility is also important part of running the session. A small number of trained volunteers support the riders and MTB leader within each session, and riders are provided with bikes and safety equipment.

As well as fostering skill development and enhancing fitness, being able to support the riders' mental health challenges on the programme is paramount. As such the leaders, coaches, and volunteers involved are trained to help the riders to live in the moment, develop healthy ways to cope with stress, regulate their emotions, and improve their relationships with others. Using 'talking therapies' riders are encouraged to discuss their thoughts, feelings, and behaviours whilst out on the rides. A number of therapeutic activities are built into the sessions, including mindfulness-based techniques, and those informed by the principles of Dialectical Behavioural Therapy (DBT) which is designed to help individuals accept who they are, understand, accept and manage difficult feelings, and encourage positive life changes (www.mind.org.uk).



Our Research

The purpose of this research is to evaluate the impact of the existing trail therapy programme delivered by DMBinS. The study will explore the effects on riders' mental wellbeing, the role of participating in the outdoors, and the structure/delivery of the programme. A secondary aim is to gather information on the lived experiences of the riders, ride leaders, and volunteers involved in the programme's delivery.

This aim will be achieved by the following objectives:

1. To review the participation and demographic data of those involved with the DMBinS trail therapy programme, including the number and nature of riders.
2. To evaluate ride leaders' and volunteers' observations, perceptions, and thoughts around the impact of the programme, and to explore their interpretations of their experiences.
3. To evaluate riders' perceptions and thoughts around the impact of the programme on their mental wellbeing, and to explore their interpretations, and reflections on their experiences.

This research has received favourable ethical opinion from Edinburgh Napier University, School of Applied Sciences Ethics Committee on 22nd July 2022.

Phase 1: Summary of participation data provided by DMBinS

This phase will enable an overview of the programme and its users, and importantly highlight the way in which users engage with programme. This method is restricted to the use of anonymous data held by DMBinS. A descriptive overview is provided below.

Riders involved

To date:

10 volunteers have been trained to support the programme

4 NHS staff have been trained to deliver trail therapy programmes in-house

2 previous service users have become qualified MTB leaders, with others also undergoing training to support others

To date over 80 individuals experiencing mental ill-heath have been involved with the trail therapy programme delivered by Developing Mountain Biking in Scotland. The riders who become involved in the programme represent a broad demographic of people experiencing a range of mental health or wellbeing challenges, including but not limited to: posttraumatic stress disorder, anxiety, depression, paranoia, schizophrenia, hallucinations, and suicidal thoughts.

The riders' ages ranged from 12 to 55 years, and whilst most riders identified as male, a variety of genders were represented. In total, DMBinS has delivered several programmes across 6 different locations, each targeting a slightly different rider demographic.

Programmes offered

Lanarkshire (n=~20 riders): This programme consists of an all-male rider group, made up of inpatients and community patients referred through the NHS. This group is led by professional mountain bike leaders and coaches supported by Occupational Therapists, and Mental Health Nurses. Over 100 sessions have been successfully delivered to this cohort. One of the riders within this group has gone onto become a mentor to others and is now a qualified MTB leader, whilst a second is also undergoing their training.

Dundee (n=~8): One of the programmes based out of Dundee targeted young people from low SIMD (Scottish Index of Multiple Deprivation). Seven males and one female (aged 16-25 years) were supported on an 8 week programme by a MTB leader, volunteers, and councillors from Feeling Strong (Dundee's Youth Mental Health Charity, www.feelingstrong.co.uk). A second block of sessions for this group is also underway.

Dundee (n=~20): A second programme delivered in Dundee supports small family groups (aged 12-45years). Again, the sessions are led by MTB leaders and volunteers, and is delivered in collaboration with Dundee Cycle Hub (www.dacyclehub.org).

Dundee (n=~20): The final Dundee provision is a programme that offers open session to those who self-refer or have been referred through organisations such as HaVen (Hearing Voices Network Dundee, www.hearingvoicesnetwork.co.uk) and Andy's Man Club (a suicide prevention charity, www.andysmanclub.co.uk).

Recommendations

To fully review and evidence riders' engagement with future trail therapy programmes, it is recommended that additional quantitative data should be gathered. This would aid an understanding of riders' involvement through all points of contact, including: initial awareness of the programme, recruitment, retention, maintenance of activity, and future interest in MTB beyond the scope of the programme. Along with more detailed demographic information, this would enable a more in-depth insight into the impact of a trail therapy programme, and highlight areas where some groups or individuals may experience barriers to taking part.

Phase 2: Qualitative evaluation of the programme

To evaluate the impact of the programme from the perspective of those involved, a qualitative approach was taken utilising interviews and small focus groups. Although limited in terms of generalisable results, this was deemed the most appropriate method to access deeper understanding of riders' experiences. Qualitative data allows insight into the meaning of the stories told by those involved, revealing complex perceptions and narratives that cannot be obtained from quantitate inquires (Patton, 2002).

Participants were recruited through DMBinS and comprised six individuals (five male, one female), with varying roles in the trail therapy programme.

3 x Riders consisting of a combination of those who have self-referred onto the DMBinS trail therapy programme, and those who have been referred through social prescription or community outreach.

3 x Facilitators were recruited, and include 1 x trained volunteer, 1 x professional mountain bike ride leader, 1 x prescription co-ordinator from a local third-party organisation.

Interview guide

A semi-structured interview guide was developed with three main sections:

Motivation and expectations. The aims of this section were to understand why and how individuals got/get involved with the trail therapy programme, and to encourage discussion around their thoughts and feelings around their involvement.

Experiences. First, this section targeted information about the likes and dislikes of those involved, specifically in relation to the technicality and terrain of the sessions. Questions were included to discover any perceived challenges and encourage a narrative around participants support experiences. A final aim of this section was to explore the role of the outdoors and how this may have influenced involvement or outcomes.

Impact. The final section focussed on questions to help understand the effect of the programme on psychological and physical skills, as well as wellbeing characteristics. Those involved were encouraged to explore their most memorable experiences and notable personal achievements.

Procedures

Following their recruitment through DMBinS, participants were invited to interview in a face-to-face or online format. Each interview was led by the lead researcher and facilitated by a second member of the research team from Edinburgh Napier University. In total, one focus group and four interviews were conducted, lasting between 28 and 62 minutes. With the consent of the participants, interviews were audio recorded and subsequently transcribed verbatim.

Data analysis

The data collected was subject to reflexive thematic analysis (Braun & Clarke, 2021), which is a qualitative analysis process commonly employed within health research. By adopting an approach that falls on the inductive-deductive continuum, the researchers aimed to both identify data driven patterns in the narrative, as well as those that are reflective of existing theory. This type of phenomenological analysis identifies, analyses, and interprets patterns of meaning from the riders' and facilitators' thoughts, feelings, perceptions, and experiences, whilst acknowledging the role of the researchers' own personal beliefs and assumptions (Byrne, 2021).

The six phases of reflexive thematic analysis as described by Braun and Clarke was used to guide the process: (1) familiarising oneself with the data, (2) generating codes, (3) constructing themes, (4) reviewing potential themes, (5) defining and naming themes, and (6) producing the report.

To ensure the acceptability and usefulness of this research, several trustworthiness procedures were applied, including; prolonged engagement with the data, and researcher triangulation during phases (2) through (5) to define, refine, vet and achieve consensus on emergent 'themes'.

Evaluation results

This section of the evaluation aims to describe the themes that emerged through the latterly explained analysis process, using the voices of the riders and their own words to express their experiences. Overall, those involved with the trail therapy programme who took part in this project were enthusiastic to share their experiences and reflected on their involvement in an extremely positive way. The stories and narratives that emerged from the analysis largely emphasised a holistic impact of the programme on riders' overall wellbeing and skill development, underpinned by three main interrelated characteristics; challenge (physical, psychosocial, and exposure to the natural environment), MTB experiences, and support.

From the interviews, 225 minutes of audio data were transcribed and subsequently analysed. During phase (2) of the analysis 803 'codes' of meaningful data were identified by the researchers, which were subsequently condensed into 18 'themes' and six subsequent 'categories'. These emergent categories each share comments around a familiar feature which is captured in their name, and include those specifically reflecting the impact of the natural environment, mountain biking, and group experiences. Each of the other categories also comprises of references to these elements in a way that reflects the holistic and combined impact of these features. The emergent categories are discussed in the following pages, and were labelled:

1. Road to recovery
2. Natural environment
3. Nature of mountain biking
4. Supportive community
5. Opportunities for therapy
6. Feedback/feed-forward

1. Road to recovery

Riders and facilitators were asked to reflect on the impact of the trail therapy programme, and discussed the skills and characteristics that they had gained or developed across three main areas; (1) physical enhancement, (2) psychosocial skill development, and (3) transferrable skills. The collective responses from the riders involved in this study, are suggestive of the programme offering an overwhelmingly positive experience for them. They shared their thoughts on what they believed they had gained.

"Its has really been a kind of just break through and helped to take those steps forward and enable to kind of keep moving"

Some of the notable outcomes for the riders on the programme were related to MTB skill development, as well as enhanced physical fitness. One of the riders specifically commented on how, although he had enjoyed cycling in the past, he had not been physically active for quite some time before joining the programme. He stated how the programme had helped him to become fitter, and develop technical skills, which was in turn influencing his confidence and how he engages with others:

"it's so transferable in other aspects of life"

"I guess it's about boosting your self-esteem isn't it? If you're confident in your own skills and your abilities grow, then you feel more confident to speak about it or speak to others about it, you know"

"Being able to connect with people again"

This was reiterated by one of the ride facilitators who was reflecting on a rider who had been a part of the programme:

"His confidence has grown. On his bike, skills have grown. They come hand in hand I think"

A large number of psychosocial enhancements were cited by the interviewees. Another one of the riders involved explained the impact the sessions had on their own confidence:

"You know, you don't go into a situation without thinking it through… just take that moment, stop, think, and then respond. That makes sense. I think that's probably the biggest thing for a lot of them."

"It gave me a bit more confidence… I wasn't very good at explaining things. I always got sort of, muddled up with my words and tried to say everything too fast. I think it's helped me with confidence to take my time explaining things"

Some of the other psych-social qualities that emerged from the narratives included; self-regulation and autonomy (feelings of being in control and being able to drive decision making), emotional regulation, regaining an identity,

self-esteem, reduced social anxiety, connection with others, and an enthusiasm to share their experiences. Motivation for future involvement in MTB and other outdoor activities was discussed by all the riders interviewed. One shared with the research team how they are now able to compete in the sport, whereas before they struggled to leave the house. Another attributed the programme to developing his confidence, overall wellbeing, and leadership skills, which has since opened up leadership opportunities within MTB and other outdoor activities.

"We've had, one individual who started engaging with other aspects of cycling and mountain biking, becoming involved with the local cycle hub. They're a very inspiring person and wouldn't have done that if they hadn't been coming along"

The riders and ride facilitators were asked about the transferability of the skills developed within the trail therapy sessions. All of those interviewed offered ways in which they (or others) had been able to apply the positive outcomes from the programme within their everyday lives:

"[the sessions] didn't just help with the anxiety challenges and things, but I also came away building skills as well…sort of the social confidence, not just in mountain biking but school as well…I wasn't expecting that"

"I see folk investing in themselves in different ways, not just material goods, but in developing themselves… it's good to see some of them actually go through the project and come out the other end as leaders"

One of the riders explained how the need for quick and considered decision making that they developed on the bike, could be applied to the tasks they often found difficult: **"You know the emotional regulation… the decision making. When you're stressed you know or scared… you can transfer that to going for a job interview or phoning the gas board or whatever you need to do"**

Similarly, a ride facilitator had discussed how he feels the riders have benefited from having to overcome challenging situations:

" [you need] critical thinking and to engage with a situation, and decide … how can I respond to that? That's a really great transferable skill…"

2. Natural environment

"It's like taking a deep breath and exhaling as soon as you come out into the open"

The category labelled 'Natural Environment' consists of three interrelated themes; (1) challenge, (2) once in a lifetime experiences, and (3) teachable moments. Almost all of those interviewed shared stories about how riding in the natural environment had provided them with memorable, novel, and often profound experiences that evoked emotional and positive mood responses. During a ride following "Storm Arwin", which had caused significant devastation within the landscape, one of the ride facilitators had recalled a rider's response when coming across a fallen tree near the trail:

"I'm just mesmerised by the shape of that [fallen] tree. And as you looked into the … cone of the tree if you like, … it was something you never see, and it was incredible, absolutely incredible. We're all kind of looking at the beauty of it, you know, was a real moment. I don't know why, but it was just a real moment"

"When the weather's absolutely terrible, when they're struggling to get out of bed anyway, and they still force themselves to come because at the end of it they know they will feel better"

All the riders involved in the trail therapy sessions have mental health diagnoses, many of whom experience significant social anxiety symptoms which make leaving their homes difficult and exposure to the outdoors limited. However, several the riders and facilitators commented on how environmental challenges were not always a barrier to attending the sessions, and that for many there was a conscious awareness of how being outside (**"even in the rain"**) had a positive impact on their overall wellbeing.

"It's not like sitting in a High Street where you've got all the distractions of urban life"

Exposure to the natural environment during the trail therapy session offered the riders opportunities to reflect on their recovery journey and provided 'teachable moments' (opportunity for learning). Many of these moments were discussed in relation to realising one's capabilities when challenged (e.g. **"surviving"** extreme weather or difficult terrain), but others were metaphorical, as one of the riders explains:

"Most of the trees have been cleared up at this point… and there was a big clear section… and then this tiny little tree spindly tree in the middle. And somebody pointed out that … it shows that even after the biggest storm it's not the biggest that always survive, but it's the smallest that survive"

3. Nature of mountain biking

Four themes comprise the category 'Nature of mountain biking'. These included comments made by the riders and facilitators in relation to (1) MTB challenges, (2) MTB experiences, (3) appeal of MTB, and (4) culture of MTB.

"I like being able to and feel the wind on my face and you know, get covered in mud… I like that"

The challenges of being out on a mountain bike were discussed by each of those interviewed, and varied by individual. Some expressed the **"exhilaration or the challenge of the skills or the obstacles",** whilst for others the fitness required to **"get to the top"** was the element they found most difficult. Whilst these personal challenges differed, each of the interviewees agreed on how the progressive design of the sessions and support from the leaders and volunteers was key to developing their resilience and coping with the challenges they faced. One of the facilitators shared their thoughts in this:

"You know, MTB can be quite tough. You can take some spills, you can fall, there's fear involved and kind of getting over all that kind of stuff [is key]"

"It's very progressive, we haven't done anything that's above anyone's capabilities, or push them through a fear zone that they're not prepared to get into".

When asked about the role of MTB in the trail therapy programme, many of the conversations with the interviewees were around how (due to its nature) MTB provided unique experiences that could not have been obtained within an alternative form of therapy.

When commenting on a night riding session (mountain biking in the dark using high powered torches), one of the riders expressed how this unique experience **"puts your worries in perspective and helps you know that the light, what you can see with the light, is your whole world… that helped… not just for biking, but for everyday life…".**

The culture of mountain biking was a key characteristic that appealed to many of the riders involved, both as a draw to the activity, and as being key to positive outcomes. Some elements of this culture that emerged from the interviews were feeling accepted into to group of likeminded riders, and being a part of a popular, exciting activity, with a growing interest and reputation across Scotland.

"We are riding in a group, for the outsider looking…no one knows what that group's about. Just a bunch of bikers who are riding together, smiling, having fun, being challenged…I think Mountain bikes are a beautiful tool."

Additionally, several of those interviewed referenced how mountain biking was a "levelling activity". When discussing this in more detail one of the riders expressed this as feeling equal to others on the programme, whilst another expressed that there was no "power imbalance" between riders and 'therapists' (volunteers and ride leaders).

"As soon as you get on that bike and as soon as you experience the same pain as someone else going up the hill. You're on level ground aren't you?"

One of those interviewed articulated that MTB as a trail therapy has the potential to reduce the stigma around treatments for mental health. Being a part of a trail therapy programme allows those involved to share the trails with others without feeling **"exposed"** or viewed as a **"patient".**

4. Supportive community

"I was quite amazed that even when you don't know people … just being on a bike side by side, the things that they were telling you straight off about their history and it is amazing"

There are two themes within the 'Supportive community' category; (1) shared experiences, and (2) supporting each other that related to the group environment and dynamics of support between the riders.

Many of the shared experiences explored within the interviews were in discussed relation to natural or physical challenges faced on the programme. The cohesiveness of the group and the quality of the support provided to one another seemed to be benefitted by these encounters, as one of the facilitators expressed following a ride in torrential conditions: **"everyone was buzzing absolutely buzzing because as they said, we've survived this experience together"** and also added **"there was a bonding that kind of happened there that was surprising cause I thought folk could be like I'm never coming back after that".** Meaningful shared experiences also came from less challenging elements of the programme, and instead arose from chance encounters and through leaders taking advantage of unplanned bonding opportunities to open a dialogue about mental health:

"I really enjoyed that aspect of it where you can connect, interact with everyone on your own terms and still sort of get that group activity feel"

"There was a little fire going for us… there was something primal about sitting round a fire. We were all looking into it and folk just started opening up… talking quite openly about their mental health"

"You know someone else is out of breath and gets off… I'm like straight off I'll push with you cuz I am almost as tired as you are. So let's share that experience."

One rider shared their stories of how the sessions had given them opportunities to ride with people who understood their personal challenges, and were able to show empathy and respond to others' needs as well as their own:

"We go out and we have a laugh on the bike. There is also a really serious side to it. If someone's speaking about themselves, you know it's almost like you switch from having a laugh to being really serious with someone when they're talking about the difficult situations"

This was also picked up and reiterated by one of the facilitators:

"It's their integrity, their honesty, and genuine reflection back to the other participants that helps others"

5. Opportunities for therapy

"Going up hills is the classic time to speak cause it, you know, you can almost take people's mind off the pain of going uphill and a bike by just having a chat"

Themes within the category 'Opportunities for therapy' emerged as those involved in the MTB therapy sessions discussed the opportunities they had to reflect on their experiences both on and off the bike, as well as practice mindfulness activities. These were labelled (1) 'the long pedal', (2) 'spontaneous therapy', and (3) 'guided mindfulness'.

The long pedal was referenced by one of the ride facilitators as a key opportunity to encourage riders on the programme to open up about their mental health. This activity refers to the often long and arduous climb to the top of the hill on a wide track, which leads riders to the slimmer 'single track' trails that head down the hill:

"There's no white eye contact, it's not threatening, it's informal and sometimes that's the best kind of therapy we've got, you know"

"The opportunities for people to have conversations not over a table, not face to face with a councillor or a therapist, not a clinical environment, but out on a bike side by side is amazing. There's no white eye contact, it's not threatening, it's informal and sometimes that's the best kind of therapy we've got, you know"

A small number of those interviewed described that some of the most impactful 'therapy' that is delivered within the sessions is not a part of a pre-planned 'intervention', but instead takes advantage of a time and a place that offers a

perfect opportunity to discuss and make sense of their experiences.

"I have never noticed the burn that we crossed. It was only when I started listening into it"

Guided mindfulness activities are built into the trail therapy sessions, facilitated by the ride leads and volunteers. These activities were often built around the natural features of the landscape, encouraging the use of all senses in building an awareness of both themselves, their emotions, and the surroundings.

"Just concentrating on things you can hear… Is it the wind in the trees? Is it the sound of the tyres on the gravel? And did you hear water running as we passed the burn?... We get amazement from people which kind of shocked me"

"[Sometimes] we make sure that nobody's talking to anybody while they're doing that [mindfulness] so everybody can get into their own zone"

When talking about these activities, two of the riders expressed that they began to become more immersed in their environment, and whilst acknowledging the physical challenges of the ride they became less focussed on them.

6. Feedback/Feed-forward

Participants were encouraged to discuss their overall thoughts about the programme and offered some of their ideas about how the programme could be improved. This category constituted three themes: (1) success of the programme, (2), inspirational leaders, (3) programme enhancements.

"We feel indebted to what the service has done for us…it's honestly just brilliant… it's just brilliant… This might sound a bit over the top, but I would have to say it's been transformational"

Overall, there was a clear consensus amongst those interviewed, that the trail therapy was a worthwhile and impactful programme that had positive effects on all those involved:

"Every trail centre should have a couple of therapists with some bikes and every health board should be able to buy into that and use it"

One of the facilitators had recalled how some of the younger riders had responded:

"I can't express what it was like at the time, but you know that couldn't have happened by just joining a bike club"

"they were really enthusiastic about other people signing up to do it…it was uncharacteristic of them to be as enthusiastic about something like that. So it was really nice to see that effect."

Whilst another stated that they hoped others would be able to benefit like them:

"I would definitely recommend it because I think, it doesn't really matter what you're going through... I think it can be helpful for anyone. You've got nice people around you, you can bike and it's just you in the middle of the woods and there's nobody else and you've got no worries. You know, I think it's. I think it's great."

"the [volunteers and ride leader] who are involved know what they are doing… they clearly have good skills and expertise… and are clearly looking in the rear view mirror"

One of the key features that emerged, which contributed to the success of the programme was the ride leader and their specific approach to providing support, embedding therapeutic activities, whilst gauging the skill level and motivations of each individual.

"I think the dynamic was great, and I think the reason we felt so supported was because [the leader] is a super guy and very knowledgeable… he knows what he's doing with biking… and talks very passionately and it really mindful of the position that we were in, and what we wanted to achieve"

"They just need someone that's not gonna judge them or stigmatise them"

"It's hard to kind of describe what that secret, magic kind of recipe was. All I can say is just the combination of…leadership, [ride leaders] mentoring, coaching…and just that very safe, very fun, very sort of relaxed atmosphere they created… just enabled us [to gain something from the programme]"

As a part of this evaluation, all of those involved were also asked how they felt the programme could be improved. Comments that emerged related to aspects of the riders' involvement including recruitment, equipment, locations, and evidencing positive outcomes.

"That person centred approach, being non-judgmental, being empathic. You know being congruent, all those kind of those things that we know work for people…I think the best [way of offering support]"

Within some of the interviews, the riders and facilitators had suggested that e-bikes might be an option to broaden the appeal of the programme to those who may find the 'fitness' aspect of MTB to be a barrier to taking part. Other tangible support suggested included a minibus and a trailer, to reduce the stress and anxiety that many of the riders' experience simply getting to the ride locations, which are often **"difficult to get to"**. Another potential barrier mentioned was that many of the riders do not have access to a bike in between sessions, meaning the shorter-term impacts of the programme may be lost.

"I think the ability to be able to travel to other areas and see a little bit more would be really beneficial"

The location of the rides was largely discussed in a positive manner: **"It's really, really progressive… there's so many options. You know if it's been wet, we'll try and stay away from the really, really muddy sections... we just keep it flexible…"** but it was also noted that **"there's a few people we've had along that are quite handy on a bike, and it's almost like they're ready to go onto the next step, but Camperdown doesn't offer it".**

One of the facilitators reflected on the process of recruitment:

"One of the biggest challenges we have is getting participants into the programme … getting the word out there is key … there needs to be some other mechanisms in place to feed the riders into the sessions … by those who are in a position of prescription"

"Show them how to repair their own bike and build their own bike…show them how to build the trail... let them ride the trail… getting experience and skills that then they could go and get a job with"

Another suggested that to encourage the social prescription process: **"[we need] recordable outcomes for the medical professionals and say yeah, this works. This is why it works. This is what the patients are gonna get out of it."**

Finally, two of the rider facilitators had suggested ways in which the programme could be developed beyond riding, and branch into other MTB related skills and activities that **"could lead to employability";**

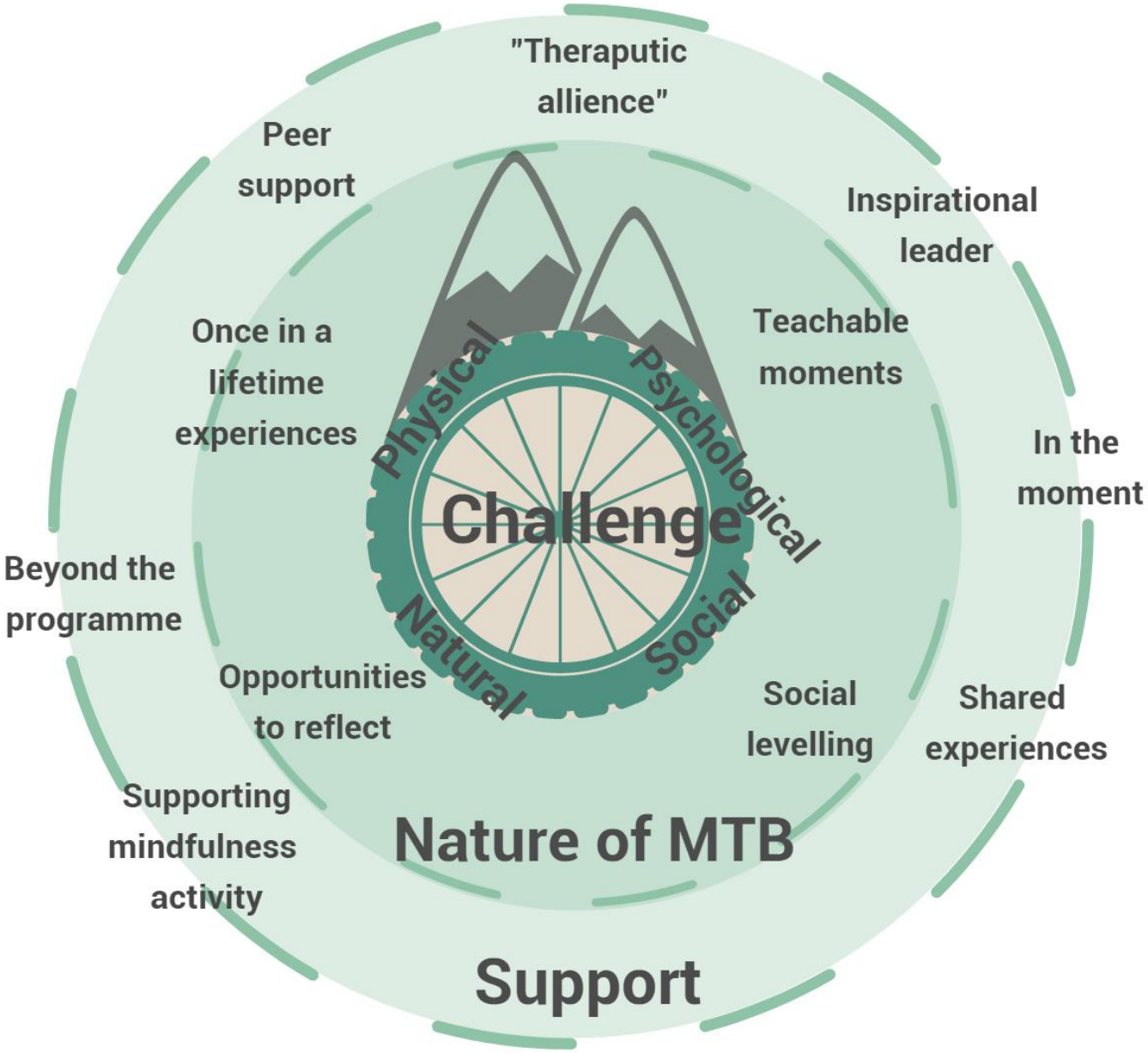
"[There are] different elements we could be working on with people... I think that's missing a little bit. I think we could be...getting involved with trail building... a bit of maintenance… I would love the thought of someone building a bike and being able to take that bike away"

"…and that has really got to the crux of what we're trying to achieve on the mountain bike trail therapy, which is… yeah, we want folk to ride mountain bikes and be out in nature...we want them to be connected to nature and to each other… so that improves their health…"

Endnotes

Together, the results from this qualitative evaluation provide important insights into the impact of trail therapy through the narratives of those involved. The emergent themes and categories show the unique combination of physical, psychological, social, and natural challenges that are inherent within an MTB therapy approach. These interrelated challenges shape the riders' experiences on the programme and sit at the centre of what makes it effective.

It is clear from the data that the riders and facilitators emphasise the holistic impact on their overall wellbeing, and that due to the unique nature of MTB these would be difficult to replicate in other settings. The final 'layer' that contributes to the outcomes of the programme appear to be support that riders receive from those facilitating as well as others taking part in the programme.



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