Fighting the Choke: The Impact of Mixed Martial Arts on Homelessness Recovery

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1. I have not been enrolled for another award of the University, or other academic or professional organisation, whilst undertaking my research degree.
2. None of the material contained in the thesis has been used in any other submission for an academic award.
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Abstract

Homelessness is a growing issue in the UK, with those affected facing a range of challenges that exacerbate their marginalisation in society. Addiction, poor mental and physical health, and social isolation are examples of the difficulties they encounter. The need for targeted interventions to positively impact the lives of those experiencing homelessness, or those at risk, is urgent. Sport and exercise offer a promising solution; their effectiveness in empowering marginalised groups and cultivating community is well documented. This research in partnership with Mind Body Connect (MBC), a Sheffield-based charity that empowers marginalised individuals through physical activity, and several homelessness services, explores the use of Mixed Martial Arts (MMA) as an exercise intervention for homeless individuals. MMA, a range of combat sports, has the potential to enhance health and well-being, though its application to homelessness has not been previously documented. The study aimed to 1) implement tailored, sustainable MMA classes, adding them as an activity to MBC's existing repertoire; 2) measure and explore the impacts of weekly structured MMA classes on the Recovery Capital (RC) of homeless individuals, or those at risk of homelessness, RC best summarised as the resources and capacities that enable growth and human flourishing; 3) develop practical recommendations for future exercise interventions targeting vulnerable adults. The Revised Recovery Capital Model (RRCM) accounts for physicality and allows the potential benefits of exercise on recovery to be articulated. This research marks the second application of the RRCM outside of interventions tackling addiction and the first in the context of homelessness. Eighteen months of MMA classes were made available to service users of local agencies that support homeless individuals. Further funding resulted in MMA classes continuing

beyond this period. As of September 2024, MMA classes have been active for 35 months. These sessions took place each Wednesday for one hour and were run by a qualified MMA coach in a fully equipped MMA studio. Classes included striking (Muay Thai), wrestling, and Brazilian Jiu-Jitsu (submission ground fighting). Data was collected over 28 months using an applied ethnographic approach utilising mixed methods. Qualitative data was gathered through observations before, after, and during training sessions and follow-up interviews. The BARC survey was used to objectively measure RC throughout the training window. Twenty participants took part in the study. Thematic analysis revealed decreases in RC before attending MMA classes due to factors such as poverty, violence, trauma, instability, mental health and addiction. However, participants reported improvements in confidence, trust, fitness, body image, social connection, self-efficacy, and mental well-being through their engagement with MMA. Quantitative analysis also showed an increase in RC through MMA training. Combined, results show that MMA training boosted RC, fitness, and transformed participants' habitus, marking a significant contribution to the field of recovery interventions. This research demonstrates the application of the RRCM to homelessness and offers recommendations for effective exercise recovery interventions. The dynamic nature of the study yielded additional benefits for participants and MBC, including, paid employment and qualifications for participants, and funding for the organisation. MMA classes became a permanent fixture in MBC's repertoire at the study's conclusion. Recommendations from the research advocate for increased emphasis on empowering homeless individuals to engage in physical activity. Additionally, it suggests further research and practice in using MMA as a means of supporting and rehabilitating marginalised groups.

“the wind blows hard tonight
and it's a cold wind
and I think about
the boys on the row.
I hope some of them have a bottle of
red.
it's when you're on the row
that you notice that
everything
is owned
and that there are locks on
everything.
this is the way a democracy
works:
you get what you can,
try to keep that
and add to it
if possible.
this is the way a dictatorship
works too
only they either enslave or
destroy their
derelicts.
we just forgot ours.
in either case
it's a hard
cold
wind.”

(Bukowski, 1986, p. 23)

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List of Acronyms

Acronym	Full Term
ACE	Adverse Childhood Experience
ADHD	Attention Deficit Hyperactive Disorder
ARC	Assessment of Recovery Capital
AUD	Alcohol Use Disorders
BARC-10	The Brief Assessment of Recovery Capital
BBV	Blood-Borne Viruses
BJJ	Brazilian Jiu-Jitsu
DA	Domestic Abuse
DCR	Drug Consumption Room
HB	Housing Benefit
HF	Housing First
HWC	Homeless World Cup
MBC	Mind Body Connect
MMA	Mixed Martial Arts
PA	Physical Activity
PE	Physical Exercise
PLC	Peer-Led Circuit
PTSD	Post Traumatic Stress Disorder
RC	Recovery Capital
RRCM	Revised Recovery Capital Model
SPF	Self-Perceived Fitness
SS	Sheffield Shootfighters
SUD	Substance Use Disorder
UC	Universal Credit

Part 1

Chapter 1: Introduction

Homelessness in the UK is a growing crisis (Shelter, 2023). Those experiencing it face a range of interconnected issues which deepen their marginalisation, including poor mental and physical health, addiction, and social isolation. As individuals on the fringes of society, there is a pressing need for more effective measures to combat homelessness and provide comprehensive support.

Mind Body Connect (MBC) is a Sheffield-based charity that empowers marginalised individuals through physical exercise (PE) and sport. Collaborating with MBC, a primary objective of this research was to introduce a new group and exercise activity to their existing repertoire and measure the effectiveness of the intervention. The Recovery Capital (RC) model, summarised as the resources and capacities that enable growth and human flourishing (Best & Ivers, 2021) (5.3), underpins MBC's work and their Revised Recovery Capital Model (RRCM) allows the potential benefits of exercise on recovery to be articulated. As someone who has benefitted from sport and exercise throughout their life and has worked in supporting homeless adults as a support worker (6.1), I was motivated to engage people who had experienced homelessness or those at risk, into exercise. Although I had never trained in Mixed Martial Arts (MMA) before this research, I have long been intrigued by its philosophical underpinnings and potential for empowerment. An MMA program was set up in conjunction with MBC and multiple homelessness services with the central research question: What are the impacts of weekly structured MMA classes on homeless individuals? This question was broken down into the following aims:

- Implement tailored sustainable MMA classes, adding them as an activity to MBC's existing repertoire.
- Measure and explore the impacts of weekly structured MMA classes on the Recovery Capital (RC) of homeless individuals or those at risk of homelessness.
- Develop practical recommendations for future exercise interventions targeting vulnerable adults.

To address these aims, the thesis is split into two parts. Following this introduction, Chapter 2 outlines the research context, detailing MBC and introducing the RRCM. Additionally, it provides an overview of MMA and its potential as a targeted exercise intervention.

Chapter 3 delves into the broader literature on homelessness, beginning from a UK perspective (3.1) and then providing an international comparison (3.2). Sections 3.3 and 3.4 apply the sociological imagination to homelessness, highlighting the complex interplay between structure and action in understanding its causes. This is followed by an exploration of the relationship between homelessness and addiction (3.5) and the physical and mental health of homeless individuals (3.6). The chapter concludes with a discussion on the potential transformative power of exercise and its relevance to homelessness, providing a rationale for implementing targeted exercise interventions for them (3.7).

Chapter 4: Exercise as an Intervention: A Critical Literature Review, provides a thorough assessment of existing research investigating the effects of PE on homeless individuals. This includes drug addiction due to its significant relationship with homelessness and the lack of research focusing exclusively on homelessness. The

chapter concludes with a summary that highlights the research gap this study addresses (5.5).

Chapter 5 outlines the theoretical context of the research and the BARC (5.4), the survey used in this research to objectively measure RC. By presenting the theory in a separate chapter, the concepts and the rationale for their use are thoroughly explained. This approach ensures that the analysis is smooth and uninterrupted, without lengthy explanations that could disrupt its flow.

The final chapter of Part 1 is the Methodology (Chapter 6). It begins with a description of the MMA intervention and my positionality (6.1), followed by a discussion of the ethnographic approach (6.2) and the underlying philosophy of the research (6.3). Practical considerations are addressed in 6.4, followed by a discussion on data collection (6.5) and data analysis (6.6). The chapter concludes with ethical considerations related to the study (6.7).

Part 2 begins with The Story Tellers (Chapter 7). This chapter provides detailed accounts of key participants (7.1), with shorter pen portraits of others in Appendix 8. Introducing participants in this manner gives the reader an understanding of the individuals at the core of this research before analysis occurs. The chapter concludes with the BARC data analysis (7.3), highlighting the positive impact the MMA intervention had on participants' RC. This data provides a quantitative framework to complement the qualitative insights from observations and interviews that feature in the chapters that follow.

Chapter 8 goes deep into the life stories of participants before starting the MMA classes, uncovering tales of capital depletion. Chapter 9 then shifts focus to participants’ experiences with exercise and MMA before the intervention, highlighting

their low physical capital. This sets the stage for Chapter 10, which explores the impacts of the MMA intervention on participants' RC.

Chapter 11 reflects on the practicalities involved in running the MMA intervention. These reflections include gathering participants (11.1), the role of the coach (11.2), and creating an environment and managing participants (11.3). These insights are used to develop a working set of recommendations for practitioners considering future implementation of exercise interventions for vulnerable adults.

The final chapter (Chapter 13) offers a conclusion to the research, converging the findings and revisiting the original research aims. Each aim is broken down, highlighting the study's contribution to knowledge. Limitations to the study are considered (12.4) and the chapter concludes with a discussion on the future direction of the research (12.5).

Chapter 2: Research Setting

This chapter provides an overview of the research context by outlining MBC's main principles and practice model, which form the core of this study. It introduces the RRCM and defines the capitals, offering readers a foundational understanding of RC and its application in subsequent chapters. A more detailed explanation is provided in 5,3. Finally, the chapter explores MMA and its potential as a targeted exercise intervention (2.2)

2.1 Mind Body Connect (MBC)

MBC cater for individuals and communities with limited access to resources and opportunities, offering elite-level coaching and tailored therapeutic programmes. Through activity service users reconnect and discover themselves, strengthening their foundation and nurturing their spirit to better deal with life's challenges.

The objectives of MBC are as follows:

1) To relieve the needs of marginalised groups by providing facilities and opportunities for sport and exercise designed to improve their conditions of life and promote and protect physical and mental health.
2) To promote community participation in healthy recreation by the provision of facilities and coaching to enable individuals to take part in exercise and strength sports.
3) To undertake research into the effects of exercise on physical and mental health and publish the results.

Before this research, MBC's therapeutic repertoire consisted of Peer-Led Circuit classes, Therapeutic Yoga, and an Advanced Strength Programme. Their service users were survivors of human trafficking, refugees and asylum seekers, recovering addicts, and mental health referrals. They are embedded in the local service provision landscape and recruit their service users through frontline "Referral Agencies".

MBC recognise the socio/structural drivers of marginalisation and the impact this has on individual autonomy. The RRCM, MBC's theoretical framework, is built on this understanding. The RRCM originates from Granfield & Clouds (1999) concept of RC and its subsequent developments (Granfield & Cloud, 2001; Cloud & Granfield, 2008; White & Cloud, 2008). RC is: "… the sum of one's total resources that can be brought to bear in an effort to overcome alcohol and drug dependency (Granfield & Cloud 1999, p.179). Recently, it has been defined as the 'resources and capacities that enable growth and human flourishing' (Best & Ivers, 2021). The concept is rooted in Bourdieu's (1986) theory of capital, referring to the cultural, social, and symbolic resources individuals or groups hold to maintain or enhance their positions in the social world (Swartz, 2012). Capital is a form of power, giving individuals the ability to impact, alter or control their situations (Tomlinson, 2004). The increased agency that command over capital facilitates is a key element of recovery (Cloud & Granfield, 2008; Best & Laudet, 2010; Boeri et al, 2016; Fitzgerald, 2017). MBC's RRCM factors physicality into the equation in the form of a reimagined Physical Capital subcategory which, alongside the traditional economic, social, cultural, and human capitals, accounts for RC (see Chapter 5 for full discussion). The subcategories from the RRCM are defined as follows:

Economic Capital - an individual's tangible assets including property and money. This includes access to money through work and/or benefits.

Social Capital - centres on their relationships, whether that be friends or family.

Cultural Capital - refers to social conformity and the ability to fit into dominant social behaviours. It also includes values, beliefs, and attitudes which are gained through subscription to a certain group/practice.

Human Capital - includes skills and skill acquisition, problem-solving ability and coping mechanisms, confidence and self-efficacy amounting to self-belief, mental health, conceptualisation of recovery and understanding of oneself; overall, being the personal resources that enable a human to prosper in certain fields.

Physical Capital – describes an individual's physical health and fitness.

MBC's first paper used the RRCM to investigate the impacts of therapeutic yoga as an adjunctive treatment for people recovering from substance use disorders. The model provided a suitable set of conceptual tools to interpret data. The research concludes by advocating for the use of the RRCM outside of addiction and in other recovery communities (Fitzgerald et al, 2020). This study set out to achieve this.

In summary, MBC recognises the deep socio/structural drivers of marginalisation, and it is from this understanding that the RRCM is built upon. The original RC framework has evolved since it was first delineated by Granfield and Cloud (1999) and the RRCM allows the possible benefits of exercise on recovery to be expressed. MBC's acknowledgement of community in furthering treatment outcomes allows the exercise classes they facilitate to be sites of communal growth where capital can be built. The RRCM was developed with the assumption that it could facilitate change for marginalised groups other than recovering addicts (Fitzgerald et al. 2020). MBC are in the final stages of editing a research paper validating the application of the RRCM on human trafficking survivors and it is my prerogative to apply the model to

homelessness. Just as addiction recovery is a process rather than an end state (Best & Laudet, 2010), recovering from homelessness requires more than stable accommodation.

2.2 Mixed Martial Arts (MMA)

The programme underpinning this investigation is based upon MMA and was offered to individuals classed as homeless or at risk of homelessness (see section 3.1 for definitions of homelessness). Sport and exercise offer a pathway to cultivate community (Wacquant, 2007; Jeanes, 2019) and empower marginalised groups (Fitzgerald, 2017; Jeanes et al, 2019). Within the homeless population PE is low (Stringer et al, 2019), and there are few interventions designed to promote an active lifestyle (Kendzor et al, 2017). Nevertheless, existing research highlights the benefits PE can offer homeless individuals (Sherry & Strybosch, 2012; Magee & Jeanes, 2013; Dawes et al, 2024). This topic is explored in greater detail in Chapter 4.

Martial arts include a range of combat sports while simultaneously emphasising philosophical developments and health (Maliszewski, 1992). A range of internal philosophies, including civic responsibility, honour and responsibility; and external philosophies, such as religion and ethical systems have been applied to the martial arts (Moore et al, 2020). Originally practised in ancient times for self-defence, martial arts are now primarily used for self-improvement; including fitness, self-cultivation (meditation), character development, self-confidence, mental discipline, and as an alternative, or compliment, to therapy for some medical conditions (Sharpe et al, 2007; Martinkova et al, 2019; Weinberger & Burraston, 2021). There are around 200 distinct disciplines of martial arts, with each style having its unique tradition of training and

philosophy (Pollock, 1978; Ribner & Chin, 1978). However, all share the universal target of learning and acquiring the skills to defend oneself from physical threat (Bu, et al., 2010). MMA is a combination of traditional and non-traditional martial arts where striking, grappling and ground fighting are merged (Bishop et al, 2013). Its history predates to 649 B.C when Greeks practised combining various martial arts in the Olympic games; however, its modern form arose with the creation of the UFC[1] in 1993 where it was rebranded for Western audiences (Bishop et al, 2013; Bueno et al, 2022). It is one of the fastest-growing sports in the world (Bishop et al, 2013) with figures in the UK from Statista showing that over 292,000 people participated in MMA in 2023 (Statista, 2024). MBC's MMA classes include Muay Thai (Thai boxing), Wrestling, and Brazilian Jiu-Jitsu (BJJ). Muay Thai is a form of stand-up fighting which includes punches and kicks along with unconventional actions which are characteristic of the sport, including knee and elbow strikes, fighting in a clinch[2], and catching kicks with takedowns [3]and sweeps (Ambroży, et al., 2021). Wrestling involves grappling techniques, such as throws and takedowns, with the goal being to overpower and knock down an opponent and establish control (Abdukahharovich, 2022). BJJ is the practice of ground fighting and submission holds (Pope, 2019). The Gracie Family are renowned within the world of MMA for the development of BJJ. The Gracie philosophy that underpins BJJ goes beyond overcoming an opponent, it is a philosophy that advocates a healthy lifestyle that utilises the full potential of the mind and body. They promote a lifestyle free of substances to allow the body to reach its full potential, with

[1] The Ultimate Fighting Championship (UFC) held its first event in 1993 and as of 2023 is the largest MMA promotion in the world. They produce MMA events worldwide for both men and women across 11 weight divisions.

[2] A standing position with fighters facing each other, arms locking their upper bodies together (ESPN, 2023)

[3] A wrestling manoeuvre to take an opponent to the mat and seize control (ESPN, 2023)

remaining connected to friends and family central as it is key in developing spiritual and mental strength.

Martial arts practices have been subject to social research. Fuller and Lloyd's (2019) research offers a powerful demonstration of the positive effect participation in martial arts can have on the construction of patterns of behaviour that directly link to health and well-being. Outside of sociology, a meta-analysis published by Moore et al (2020) supports martial arts as an effective sports-based mental health intervention with potential suitability across a range of mental health contexts. Specific combat sports, such as boxing, have long been of interest to sociologists. Wacquant's (1992) ethnography of boxing in a working-class Chicago gym is an often-cited example of the profound impact boxing can have on an individual and community. Furthermore, Singh's (2022) ethnography of kickboxing in a gym in east London demonstrates how kickboxing can teach people to reject prior identity markers.

In 2018, an informal evaluation was conducted on a programme which provided boxing classes for people experiencing homelessness in Manchester, facilitated by Fighting Fit. The project found it improved mental health, promoted positive social interactions, provided a respite from usual worries and concerns, and created a valuable opportunity for much-needed exercise for people experiencing homelessness. This indicates the therapeutic potential of combat sports for people experiencing homelessness (Jump & Blackmore, 2022). The therapeutic potential of BJJ has been subject to research due to the recognition of the sport's philosophies. Collura (2018) posits that BJJ practitioners often discover that the cultural rituals cultivate a strong sense of community, encourage healthy social interactions, enhance understanding of stress and self-awareness, and foster positive physical habits that can help prevent substance abuse and sedentary behaviour. Practising BJJ requires a high degree of

trust, as practitioners lend their body to others to be put under submission, and patience as one learns complex techniques. Admitting submission due to being physically dominated nurtures humility and recognition of one's limits (Weinberger & Burraston, 2021). Tapping out [4]not only signifies admission to defeat but demonstrates control over one's situation (Pope, 2019). BJJ allows practitioners to explore "fight or flight" responses in a controlled environment, allowing various mental pathways to be explored (Collura, 2018). Weinberger and Burraston (2021) found BJJ practice significantly impacted veterans' PTSD symptoms and instilled self-confidence, assertiveness, patience, self-control, empowerment, empathy, and mindfulness.

Whilst the power of individual combat sports is recognised, to date there has been no research into the impacts of an MMA intervention for homeless, or at risk of homelessness, adults.

2.3 Research Setting Summary

The RRCM provides a framework to articulate the potential benefits of exercise on recovery, and this research aims to extend that model to homelessness. Limited research suggests exercise interventions can benefit homeless individuals, and MMA, with its empowering philosophical underpinnings, shows promise. Despite evidence that combat sports positively impact marginalised populations, there is a lack of documented research on the impact of MMA on homelessness. This study seeks to fill that gap.

[4] A move that ends a fight and signals that an opponent is beaten. Most often an individual taps out when they are caught in a submission and they wish to submit, ending the bout.

Spaaij (2009: 248) asserts that to appreciate the value of sports and social development interventions a “reflexive analysis of the political-cultural context” in which they are situated must be undertaken. The next chapter offers a broader understanding of homelessness.

Chapter 3: Homelessness

Understanding the broader environment in which the MMA intervention is situated enhances the appreciation of its value. This chapter discusses UK homelessness, focusing on definitions, statistics, and policy (3.1). Given that research from the UK, USA and Australia is frequently referenced throughout this thesis, nuances in homelessness, policy, and research culture are discussed in 3.2. Whilst literature from other parts of the world is used, it is small in comparison. Section 3.3 then introduces the sociological imagination and begins applying it to homelessness. This continues in 3.4, where pathways into homelessness are considered through a theoretical lens. The relationship between homelessness and substance abuse is explored in 3.5, followed by discussions on health issues within the homeless population (3.6). The benefits of exercise are then examined (3.7) and a rationale for exercise interventions that target homeless individuals is provided.

3.1 UK Homelessness

According to The Housing Act 1996, a person is considered homeless if they:

- Have no accommodation available to occupy
- Are at risk of violence or domestic abuse (DA)
- Have accommodation but it is not reasonable for them to continue to occupy it
- Have accommodation but cannot secure entry to it
- Have no legal right to occupy their accommodation
- Live in a mobile home or houseboat but have no place to put or live in it

Shelter's (2023) official report estimated that on any given night there are over 309,000 people homeless: equating to one in every 182 people. This is 14% more (38,100 people) than recorded the previous year. The charity's research highlights the rapid rise of homelessness in England in 12 months. Over 3,000 people are sleeping rough on any given night (26% increase), 279,400 are living in temporary accommodation (14% increase) with most of them being families, and there are 20,000 people in supported accommodation or hostels (Shelter, 2023). These figures are an indication of a growing homelessness problem. Due to the different forms of homelessness, it is challenging to measure accurately. Therefore, 'official' governmental estimates are not easily identified (ONS, 2018; Shelter, 2023). However, figures/estimates exist. Fitzpatrick et al (2023) produced The Homelessness Monitor: England 2023 in conjunction with Crisis, a yearly longitudinal study that provides an independent analysis of the impacts of recent policies on homelessness and economic developments in England. Findings estimated that 'core homelessness' – a concept capturing the harshest and immediate forms of homelessness, including rough sleeping, statutory homelessness, hidden homelessness, and at risk of homelessness (see Table 1) – totalled close to 242,000 in 2022, having risen from around 187,000 in 2012 (Fitzpatrick et al, 2023). Mainly due to COVID-19, these numbers dropped in 2020 to around 200,000 because of the Government's emergency responses; however, it was predicted that without the implementation of long-term housing and welfare mitigation interventions by the Government, the economic aftermath of the pandemic posed a substantial risk of a rise in core homelessness (Fitzpatrick et al, 2021). A prediction that has been confirmed.

Table 1: *Core Homelessness*

Rough Sleeping	The most visible form of homelessness. Sleeping in a public space.
Statutory Homelessness	When the local authority decide that a household does not have a legal right to occupy accommodation that is accessible, available, and reasonable. Often referred to as the main homelessness duty.
Hidden Homelessness	Individuals who do not approach help for housing or are not entitled. Not counted in official statistics.
At Risk of Homelessness	Those in low paid jobs, living in poverty and poor quality or insecure housing.

Adapted from Crisis. (2019). About homelessness. Retrieved from Crisis: https://www.crisis.org.uk/ending-homelessness/about-homelessness/

The UK introduced various acts over the past two decades to address homelessness. The Homelessness Act 2002, enacted by the Labour government, led to a sharp drop in homelessness application decisions around 2004. This was due to increased prevention duties for local authorities and targeted interventions (Homelessness Act 2002, 2002, Busch-Geertsema & Fitzpatrick, 2008; ONS, 2019). This act required every housing authority district to have a specific homelessness strategy and extended priority need categories to homeless 16–17-year-olds; care leavers aged 18,19 and 20; individuals classed as vulnerable because of time spent in care; prisoners or those in custody; people deemed vulnerable due to leaving/fleeing their homes because of violence; and the armed forces (Homelessness Act 2002, 2002). Policymakers viewed reductions in homelessness in the late 2000s as a result of the Homelessness Act 2002. However, academics were cautious of declines as wider structural issues were not tackled (Busch-Geertsema & Fitzpatrick, 2008; O'Sullivan, 2008). It was argued that whilst positive outcomes could be achieved despite unhelpful structural trends, such as poverty and increased unemployment, successful prevention policies required targeting of key triggers for causes of homelessness (see 3.4 for key triggers) (Busch-Geertsema & Fitzpatrick, 2008). Based on recent figures, academics during this period

were correct to be cautious. In 2010 the number of reported rough sleepers in England on a single night in autumn was 1,768 - in 2017 this was 4,751 (ONS, 2021) – highlighting a clear failure in policy.

The Conservative Homelessness Reduction Act 2017 expanded on the 2002 Act by requiring local authorities to intervene earlier to prevent homelessness and mandating that housing authorities provide services to all affected, not just those in 'priority need' (Homelessness Reduction Act 2017, 2017). The sentiments of this act were supported by homeless charities due to its extension of entitlements to help, and its focus on the prevention of homelessness. However, without improvements to wider housing and welfare policy to tackle homelessness, and continued support once exiting homelessness, the aims of the Homelessness Reduction Act 2017 were under threat of being undermined (Garvie, 2018) – mirroring critiques of the Homelessness Act 2002. Without improvements, there were concerns of negative unintended consequences, such as unlawful decisions, 'gatekeeping' of services, and repeat homelessness[5] which would have damaging repercussions for children and other vulnerable people (Garvie, 2018). Further government responses include The Rough Sleeping Strategy (2018), which aimed to eradicate rough sleeping by 2027 through preventative and interventive strategies (MHCLG, 2018), and the 2020 'Everyone In' COVID-19 response, which directed local authorities to provide emergency accommodation for rough sleepers, those at risk, and individuals in setting where it was difficult to self-isolate, such as shelters. Restrictions were also placed on private landlords for evictions and lengthened notice periods (MHCLG, 2021), reducing the risk of homelessness. The Everyone-In strategy was implemented in March 2020 and was lauded by charities, with Shelter (2021) stating that *"the approach showed that,*

[5] Presenting as homeless within 365 days of last presentation

with political will and adequate funding, it is possible to very quickly offer accommodation to everyone on the streets". Yet, less than six months later it reportedly ended (BBC News, 2020). Research by UCL (2020) estimated that the preventative measures avoided over 266 deaths, 1,164 hospital admissions, 338 ICU admissions, and 21,000 infections among homeless individuals during the first Covid wave. It was an effective strategy that worked.

The definition of 'priority need' has developed. Priority, and suitable for emergency housing, are those: living with dependent children; pregnant; homeless because of domestic abuse (DA); care leavers aged 18 to 20; and homeless due to a fire or flood (Shelter, 2021). As of 5th July 2021, a change in law means automatic priority is given because of DA. Now, if you are at risk of DA, you are automatically classed as both homeless and in priority need (Shelter, 2021). The recent Ending Rough Sleeping for Good (2022) government strategy stated a plan to end rough sleeping by 2024. This is a reduction in the timescale proposed by The Rough Sleeping Strategy (2018) which targeted 2027. The strategy promised significant investment in homelessness services and a focus on prevention, intervention, recovery, and a multi-agency approach. The Kerslake Commission was formed in 2021 to learn lessons from the successful Everyone In initiative and is made up of homelessness experts. In their 2023 report, they concluded that the government would fail to meet its 2024 aim. They stated:

"Following this evidence gathering, it is the conclusion of the Kerslake Commission that the Government will not meet its goal to end rough sleeping by 2024. Rough sleeping is on the increase and at the heart of it are chronic and unresolved systemic issues, which have left the country vulnerable to new pressures." (The Kerslake Commission, 2023)

Whilst The Kerslake Commission (2023) acknowledges the government's progress, they criticise their priorities and suggest that many issues outlined in the Ending Rough Sleeping for Good (2022) strategy could be resolved with more supported and social rented housing. With this thesis's submission in 2024 and rough sleeping still present and increasing, it appears the Kerslake Commission's assessment was accurate.

3.2 International Comparison

The USA and the UK have produced extensive literature on homelessness (Fitzpatrick & Christian, 2006; Culhane et al, 2020). Recently, Australia has produced a large amount of research and is spoken of, alongside the UK and the US, in internationally comparative homelessness papers (Heerde et al, 2020; Carnemolla & Skinner, 2021). Research from these countries features often in this thesis; therefore, it is important to outline nuances which impact homelessness. Whilst differences exist, the experience is more similar than it is disparate. Following this discussion, I shall be referring to research from each country interchangeably without highlighting its origins due to similarities.

3.2.1 Social, Economic, and Policy Comparisons

Social, economic and policy variables in various national and local contexts affect the extent and composition of homeless populations, including their additional support needs (Bramley & Fitzpatrick, 2018). By comparing the housing, labour market and welfare contexts of the UK, the US and Australia, differences in complexities of their homeless populations' needs can be inferred. USA welfare programs are largely state-

administered and subject to local variations making it challenging to generalise findings on social and economic conditions. However, broad structural contrasts and similarities are clear. Both the UK and the USA have experienced a rise in economic inequality in recent years (Hoffman et al, 2020). The USA, viewed as more unequal, has a disproportionate number of black and minority ethnic groups in poverty, adding a strong racial dimension to US welfare debates (Wilson, 2012; Chetty et al, 2020). A racial element to homelessness also appears in Australian statistics, with 20% of homeless individuals in 2016 identifying as Aboriginal and Torres Strait Islander Australians (ABS, 2018). For perspective, 3% of the Australian population in 2016 identified as Aboriginal and Torres Strait Islander Australians (ABS, 2018). In the UK the disparity is not so clear. According to government data, in 2017/18 62% of statutory homeless households were White (including white ethnic minorities) (MHCLG, 2018). However, when assessing the levels of homelessness concerning the population for each ethnic group, differences are seen. White and Asian populations are under-represented among statutory homeless in all regions of England, whereas Black, Mixed, and Other ethnic groups are over-represented (Finney, 2022). According to Shelter (2020), governmental figures between April 2019 and March 2020 show Black people as disproportionately affected by homelessness, with 1 in 23 black households either becoming homeless or threatened by it, versus 1 in 83 of other ethnic households. The same applies to rough sleeping in London where Black African, Caribbean, White Other, Roma, and Gypsy Traveller groups are over-represented. In all three countries, ethnic minorities are unequally affected by homelessness.

Each country has high levels of unemployment (AboElsoud et al, 2020; Kaufman et al, 2020; Li & Heath, 2020;), but the US has more extreme cases of austerity and decline/stagnation of welfare and labour markets (Bell & Blanchflower, 2020).

Considering welfare responses, the UK ‘welfare state’, established in the aftermath of World War II (WWII), remains a relatively comprehensive system despite reforms since the 1980s (Fitzpatrick & Christian, 2006). Protection through Universal Credit (UC) (a national income maintenance scheme) offers low-income households a regular cash allowance, and assistance with renting accommodation via the Housing Benefit (HB) scheme (with the potential for all rent to be paid depending on income). This provides a safety net regardless of recent reforms and austerity. Australia’s ‘Social Security’ system is similar, providing income support and rent assistance for non-homeowners struggling to afford accommodation prices. However, UC and HB are criticised. UC was introduced in 2013 alongside major welfare reforms aiming to simplify the benefits system and radically changed the credit system for individuals of working age (DWP, 2018). It was implemented in the wake of prolonged austerity defined by harsh cuts to public expenditure (O'Hara, 2014) and combined the previously six separate welfare benefits into one monthly payment for a nominated household member (National Audit Office, 2018). These changes occurred alongside cuts to child tax credits and cash freezes in most benefit rates, surmounting to significantly reduced incomes for low-income working-age households (Hood & Waters, 2017). Homeless charities supported the UK government's aim of simplifying the benefits system but had concerns that the new UC system could cause difficulties and put people at risk of homelessness (Crisis, 2017). Cheetham et al (2019), found negative impacts of UC on mental wellbeing, social, and family lives. Claimants found the new digital claims process complicated and demeaning, and further damaging effects were found on debt, housing insecurity, overall debt, and food poverty (Cheetham et al, 2019). During the COVID-19 pandemic, a £20-a-week increase to UC was brought in to support those on low income – this scheme officially ended on 6 October 2021. The need for

long-term interventions following COVID-19 was stated in 3.1, and it was warned that the end of this uplift could result in wider health inequalities, damaging the mental and physical health of thousands of families (Tinson, 2021).

Welfare protection in the US is basic and fragmented (Kudrle & Marmor, 2017). Dominant discourses of free market ideology and the entrepreneurialism that characterises the US helps explain why the development of a strong welfare system has been prevented (Wade, 2017). The individualism (Hoover & Nash, 2016) and inherent American hostility towards governmental spending (Alesina et al, 2001) have impacted the amount of government intervention on housing and employment. Those without children are eligible for income maintenance payments or housing subsidies, with the main welfare protection being in the form of food stamps. This does not apply to ex-army, elderly or disabled vulnerable adults who are entitled to more welfare provisions through the Supplemental Security Income programme (Duggan et al, 2016).

Having shrunk in the past two decades, the social housing sector in the UK provides additional housing protection (Tunstall, 2020). Social housing is accommodation provided by housing associations or local councils that own the properties and provide more affordable private renting and secure, long-term tenancies. UK homelessness legislation was discussed in 3.1. Key to legislation is providing welfare protection through the legally enforceable right for rehousing ‘priority’ groups. Local authorities must provide accommodation to these groups until they obtain settled accommodation, usually in social housing. The provision of public housing (a form of social housing) is also a core component of housing policy in Australia, and like the UK, plays a vital social role despite its relatively small and shrinking size (Pawson et al, 2020).

The US has no national entitlements to subsidized housing and no federal legal right for sheltering homeless households whilst they look for housing (O'Connell, 2001; Fitzpatrick & Christian, 2006). The right to shelter has been established at the state level, with New York being the first jurisdiction to recognise state responsibility for shelter in 1979 (Hartman, 2006). Others followed, including West Virginia and California; and there is a right to shelter at a municipal level in, Washington D.C, Atlantic City, and Saint Louis (Langdon & Kass, 1985; Passaro, 1996; Wells, 2020).

To summarise the previous paragraphs, there are similarities across homelessness in the UK, the US and Australia. As such, research from each country is pertinent to this study. However, due to variations in structural contexts, the subjective experiences of homelessness will differ. Each country experiences high levels of unemployment and a racial dimension to their homeless populations. While the welfare systems in the UK and Australia appear more generous when compared to the US, closer examination reveals significant issues within the UK system that can be detrimental to those who rely on it.

3.2.2 Research Comparisons

Different research traditions between the UK and the US have led to contrasts between the types of homelessness studies produced, with Australia being more aligned with the UK (Culhane et al, 2020). In the UK and Australia, homelessness research is deep-rooted in the field of housing studies (Barker, 2016; Cowan, 2019) and, in the UK in particular, the causation of homelessness has been predominated by structural explanations (Fitzpatrick, 2011). By contrast, in the USA, clinical psychology, sociology and medical perspectives dominate (Maness et al, 2019; Radcliff et al, 2019;). This

has resulted in numerous quantitative studies on homelessness being produced in the USA due to the clinical perspective and quantitative approach found in their social sciences. In the UK, homelessness researchers have been more concerned with qualitative and conceptual forms of evaluation and exploration. However, there has arguably been a neglect of robust evaluative research on targeted interventions due to this preoccupation (Culhane et al, 2020). Whereas originating from the USA, the 'Housing First' model (discussed in 3.5.4), which has had a huge international impact in addressing chronic homelessness, can be attributed to a robust randomised controlled trial whose findings supported the radical approach (Padgett et al, 2016).

In summary, UK and Australian homelessness research has a primary qualitative focus, whereas USA research is mainly quantitative. Each research tradition has its effectiveness but rarely does either offer a full understanding of homelessness. This insight can be gained by applying the sociological imagination. The following section introduces the sociological imagination and applies it to homelessness.

3.3 The Sociological Imagination

The 'sociological imagination' describes the type of insight offered by the discipline of sociology. It allows individuals to recognise the differences between 'public issues' and their own 'personal troubles (Mills, 1959). More precisely, it allows us to conceptualize how individual experiences relate to broader processes of change and social continuity. Through the application of imaginative thought to sociological questions, the ability to analyse social injustice rather than accept the norm is given (Giddens, 1989). The previous sections contextualised homelessness and compared the research contexts from three main contributors to homeless research. To build on

those discussions, the sociological imagination is applied to bridge the gap between research and understanding of the causes of homelessness.

The structure-action dualism is fundamental to social theory (Bakewell, 2010). This dualism features in subsequent discussions; therefore, a preliminary explanation is necessary. Agency (action) refers to the capacity for social actors to contemplate their position and the capability to have free will: the ability to act independently and affect the social relationships that they are embedded within (Sewell, 1992; Barker, 2005; Layder, 2006;). Simply, an individual's ability to make their own choices. Structure is concerned with recurring, organised patterns of social relationships and institutions which influence the opportunities and behaviour of social actors (Barker, 2005; Scott & Marshall, 2009). Structures enable and constrain human behaviour due to the framework of social norms, rules, and resources they provide within which individuals operate (Giddens, 1984). This definition is arguably inadequate, as Sewell (1992, p.2) contends that the term is difficult to define formally:

"Structure operates in social scientific discourse as a powerful metonymic device, identifying some part of a complex social reality as explaining the whole. It is a word to conjure with in the social sciences. In fact, structure is less a precise concept than a kind of founding epistemic metaphor of social scientific—and scientific—discourse"

Highlighted are some of the problems that arise in the social sciences with the use of the term 'structure'. Firstly, reification occurs when social structures are viewed as rigid and beyond the reach of human agency, yet they are seen as shaping social actors' actions. Secondly, metaphorically, structure implies stability and offers little to explain how patterns of human behaviour change over time – suggesting that social change exists outside of the system (Sewell, 1992; Bakewell, 2010). Nevertheless, the dualism

debate relates to issues at the core of both classical and contemporary sociological theory. The challenge remains for social theorists to recognise the significance of social structures in comprehending social action while accommodating agency and providing a suitable explanation for social change (Archer, 1996; Bakewell, 2010).

Traditionally, explanations of homelessness were broadly placed into two polarised categories: “individual” (action) and “structural”, and although this structure versus agency explanation oversimplifies homeless thinking (Neale, 1997), it is historically relevant. Individual explanations are pathological, focusing on the behaviours of homeless people and personal vulnerabilities (mental health and addictions). Structural explanations find the causes of homelessness in broader forces (housing market conditions, unemployment, poverty) (Benjaminsen & Bastholm Andrade, 2015; Johnson et al, 2015). How homelessness is explained, whether through structure or agency, significantly impacts public and policymakers’ perceptions. For example, the distinction between the “deserving” and “undeserving” poor (Rosenthal, 2000; Bramley & Fitzpatrick, 2018) illustrates this effect. When homelessness is attributed to structural factors, individuals are seen as deserving of public sympathy and charitable support. Conversely, if homelessness is attributed to individual factors, it carries connotations of blame, leading to perceptions that they are undeserving of sympathy (Rosenthal, 2000).

As outlined in 3.2.2, Britain has historically favoured structuralist housing market-based explanations of homelessness (Fitzpatrick, 2011). However, a ‘new orthodoxy’ of explanations has emerged, taking a blended approach considering how structural and individual factors intersect to create vulnerability or exacerbate issues for those already homeless (Bramley & Fitzpatrick, 2018). This transition occurred through an increasing amount of research from the 1980s highlighting non-housing related

problems experienced by the single homeless, such as mental health, and substance abuse (Pleace, 1998). The new orthodoxy is an attempt by academics to weave together macro (structural) and micro (individual) factors in their explanations of homelessness (Kennett & Marsh, 1999, Fitzpatrick et al, 2000). The assertion is that structural factors create the conditions in which homelessness occurs and then individual factors determine the likelihood of becoming homeless in those conditions (Fitzpatrick et al, 2000; Pleace, 2000). Therefore, there is still a primacy of structural causes running through the new theorisation. Whilst providing a more practically adequate explanation of homelessness, it is criticised. It partly replicates the largely discredited notion of a strict structure/agency dichotomy in sociology (Stones, 2001), but it also fails to account for a whole range of factors that can contribute to homelessness (Fitzpatrick, 2005). Examples of these factors are marriage breakdown and poor parenting. Both can contribute towards homelessness but do not operate at a structural or individual level (Fitzpatrick, 2005, Somerville, 2013). Furthermore, acute personal crises, such as the abrupt death of a loved one, where structural factors are absent, are unaccounted for. However, the fundamental weakness of the new orthodoxy is the lack of clear conceptualisation of the causation of homelessness (Fitzpatrick, 2005).

To rectify the lack of conceptualisation, Bramley and Fitzpatrick (2018) put forward critical realism. Critical realism is considered a ‘meta-theory’ (Hastings, 2020) because it challenges both positivist and interpretivist approaches to social science. It aligns with interpretivist critiques of positivism, particularly in recognising the importance of human perceptions and reasoning, but it rejects the notion that social science can be reduced solely to the interpretation of meaning (Fitzpatrick, 2005). It is also the philosophical doctrine that much ethnography is founded on (Hammersley, 1992);

therefore, compatible with this study (Chapter 6). It allows researchers to overcome the emic fallacy, where the objective reality is different than the individual's/native perception due to low structural awareness (Fetterman, 1989; Duneier & Carter, 1999). According to critical realism, social causation is unforeseen. Given the open nature of social systems, something can tend to be a cause of homelessness without having the power to cause it each time. Other contextual factors may interfere to prevent any correspondence between cause and effect (Sayer, 2000). Because the social world is an open system: outcomes are the result of mechanisms and powers that bring about, enable, or avert events or the development of new structures (Hasting, 2020). These explanations are complex, it is a result of considering multiple – commonly interrelated and multi-directional causal mechanisms, whilst also allowing for the possibility of a range of separate causal routes into the same experience at the same time (Bramley & Fitzpatrick, 2018). From the critical realist perspective, sequences of inter-related causal factors are likely to provide an 'explanation' to homelessness in any case, but the challenge is to find frequent patterns that can be explained by the 'qualitative nature' of recurring predecessors (Bramley & Fitzpatrick, 2019). For example, what is it about these factors that could tend to cause homelessness.

Critical realism and Pierre Bourdieu's theories (see 5.1) can be linked through their mutual focus on the interplay between action and structure (Archer, 1995). Bourdieu's concept of habitus, capital, and field highlights how social structures shape dispositions and behaviours while accommodating agency (Bourdieu, 1992). Critical realism's emphasis on the causal power of social structures aligns with Bourdieu's analysis of how structures become ingrained in an individual and expressed through habitus (Archer, 1995). Therefore, critical realism provides the philosophical underpinning to Bourdieu's theoretical work that runs through this study (Chapter 5).

3.4 Structure and Action: Pathways into Homelessness

How someone becomes homeless can be understood as an event/sequence of events in a person's housing pathway (Clapham, 2003) where capital stocks diminish. Anderson & Tulloch (2000, p.11) describe a pathway into homelessness as "the route of an individual or household into homelessness, their experience of homelessness and their route out of homelessness into secure housing". Research points to a variation of factors that can contribute towards someone experiencing homelessness in their life trajectory.

3.4.1 The Centrality of Poverty

"Poverty frees them from ordinary standards of behaviour, just as money frees people from work" (Orwell, 1993, p.3)

Poverty is the inability to afford the basic material necessities in life (Hudson, 2016) and is characterised by a lack of economic capital (2.1). In capitalistic cultures, the overemphasis on individual agency in determining socioeconomic status results in the dismissal of poverty as being self-inflicted (Allison, 1993; MacLeod, 2009). Public apathy is fuelled by media images that reinforce negative stereotypes of the poor, portraying them as deserving of their situation due to moral deficiencies or laziness (Bullock et al, 2001; Romano, 2017), completely distracting from systemic inequalities. Although primarily associated with income, poverty is also an identity constructed through interactions with others and learned ways of thinking (Langston, 1992; Ochs, 1993). Feelings of shame are often experienced by those in poverty (Hudson, 2016), impacting an individual's behaviour as they struggle to meet the expectations of others

and maintain appearances. This spans across cultures and time periods. George Orwell's (1993) memoir of his own experiences of poverty, *Down and Out in Paris and London,* describes the secrecy involved in hiding his lack of economic capital and the impact of living a life governed by lies and fear.

> *"You discover, for instance, the secrecy attaching to poverty. At a sudden stroke you have been reduced to an income of six francs a day. But of course, you dare not admit it – you have got to pretend that you are living quite as usual. From the start it tangles you in a net of lies, and even with the lies you can hardly manage it. You stop sending clothes to the laundry, and the laundress catches you in the street and asks you why; you mumble something, and she, thinking you are sending the clothes elsewhere, is your enemy for life. The Tobacconist keeps asking why you have cut down your smoking. There are letter you want to answer and cannot, because stamps are too expensive. And then there are your meals – meals are the worst difficulty of all. Every day at meal times you go out, ostensibly to a restaurant, and loaf an hour in Luxembourg Gardens, watching the pigeons. Afterwards you smuggle your food home in your pockets. Your food is bread and margarine, or bread and wine, and evene the nature of the food is governed by lies. You have to buy rye bread instead of household bread, because the rye loaves, though dearer, are round and can be smuggled in your pockets. This wastes a franc a day. Sometimes, to keep up appearances, you have to spend sixty centimes on a drink, and go correspondingly short of food." (Orwell, 1993, p.13-14)*

Memoirs by Hudson (2016) reiterates the same when they state, "people in poverty are tortured by the fear of shame, not meeting the expectations of others, and the constant struggle to keep up appearances". Essentially, poverty is not only material

impoverishment and a lack of economic capital; it also encompasses psychological aspects, impacting individuals' human capital and habitus (see 5.1 for discussion on habitus).

Poverty is viewed as a critical factor in the causation of homelessness, with experiences of child poverty strongly linked to adult poverty (Bramley & Fitzpatrick, 2018). Research recognises that poverty alone does not cause homelessness (Anderson & Christian, 2003; Chamberlain & Johnson, 2013), but there is a strong interrelationship between it and other triggers. The most obvious link between poverty and homelessness is the difficulties low-income individuals or families face in the housing market (Quigley et al, 2001). However, poverty is associated with a range of social dislocations which play a key role in experiencing homelessness (McNaughton, 2008; Fitzpatrick et al, 2011). For example, there is a strong causal effect between poverty and physical (physical capital) and mental health (human capital) (Marmot & Bell, 2012), which is intertwined with its relationship with substance abuse (Bramley et al, 2015); operating in conjunction to exacerbate each other. This highlights the complex interplay between structural and individual causes of homelessness (3.3). Poverty can strain family dynamics (Pinderhughes et al, 2007; Johnsen & Watts, 2014;), and there is evidence of a relationship between poverty and DA (Fahmy et al, 2016).

3.4.2 Family Breakdown and Conflict

The family and core social relationships are argued to be vital in protecting against homelessness (Johnson et al, 2015). Disruptive social experiences in both youth (Chamberlain & Johnson, 2013; Moschion, 2019; Cohen-Cline et al, 2021) and

adulthood (Crane et al, 2005; Laere et al, 2009; Mabhala et al, 2017) can significantly impact housing circumstances and social capital. DA is a common cause of homelessness for women (Maycock et al, 2016; Bretherton, 2020). Between July and September 2021, local councils accepted 6,310 households as homeless due to DA, a 13.7% increase from the previous year (MHCLG, 2022). The youth-adult pathway into homelessness is characterised by substantial instability in childhood, ranging from parental separation (Moschion, 2019) to traumatic experiences of physical and emotional abuse (Hyde, 2005). Individuals who experience violence in the household from caregivers face challenges in external environments, resulting in a persistent distrust and inclinations to violent reactions as a standard response that they carry into adulthood (McGarvey, 2018).

A link to poverty is clear in Moschion's (2019) research into parental separation, as findings show that the majority of those affected by family conflict and violence are from disadvantaged households. McGarvey (2018) views the emotional stress of poverty as the 'engine room' that fuels family conflict. For adults, the collapse of a relationship with those close is often the final stage in their homelessness trajectory (Mabhala et al, 2017) and contributory factors like mental health problems and substance abuse worsen the situation (Crane et al, 2005).

3.4.3 Adverse Childhood Experiences (ACEs) and Mental Health

Adverse childhood experiences (ACEs) are potentially traumatic events that can have negative lasting effects on health and well-being. These events include maltreatment, abuse, and living in harmful environments (Boullier & Blair, 2018). ACEs were first described by Felitti et al (1998). The study took place in the context of a high

prevalence of past sexual abuse among patients attending an obesity clinic, leading to questioning of their histories. Over 17,000 adults who between 1995 and 1997 had attended a standardised medical evaluation were sent a questionnaire that measured experiences of household challenges, neglect, and abuse with all questions referring to the first 18 years of a respondent's life. 10 categories were covered (Table 2) and the number of categories experiences was known as the ACE score (Felitti, 2019).

Table 2: *The 10 categories of ACE's*

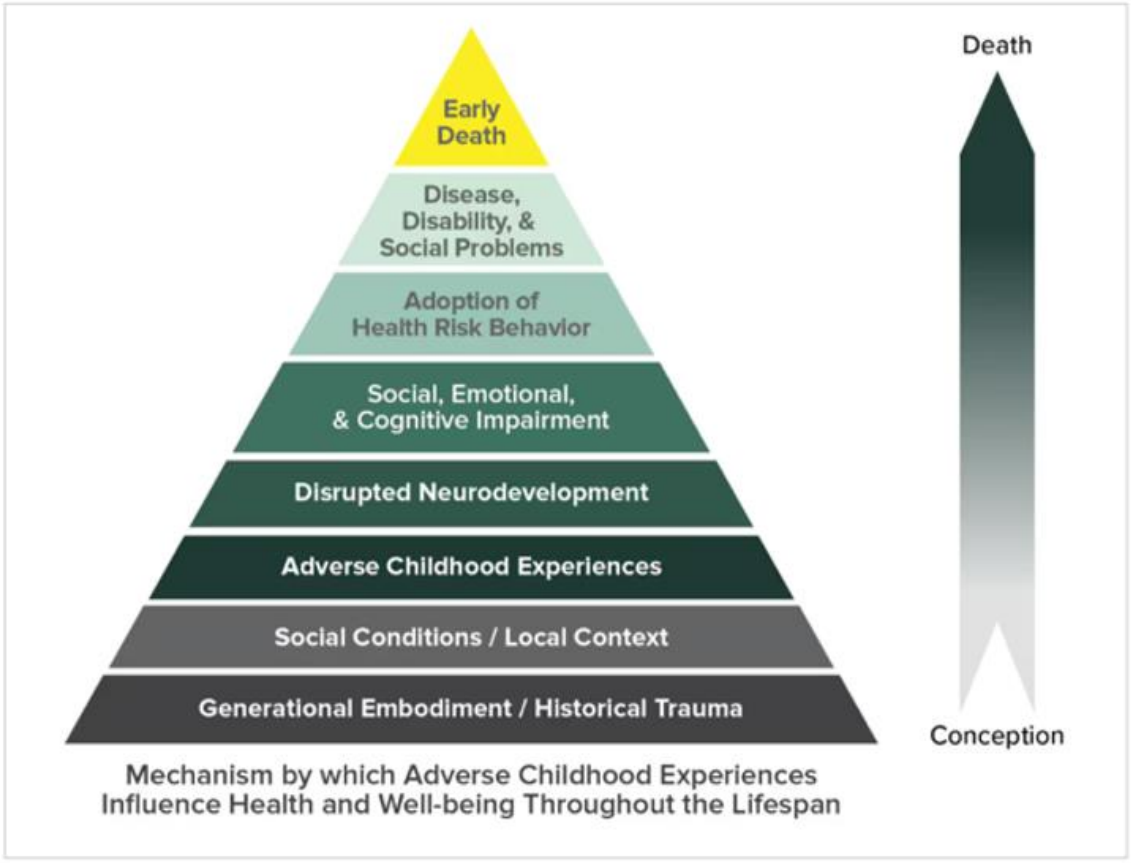
Abuse	Emotional abuse
	Physical abuse
	Sexual abuse
Household Challenges	Mother treated violently
	Substance abuse in household
	Mental illness in the household
	Parental separation and divorce
	Incarcerated household member
Neglect	Emotional neglect
	Physical neglect

Adapted from Felitti et al (1998). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. American Journal of Preventive Medicine, 14(4), 245–258

Findings from the study indicated that ACEs were common. Almost two-thirds of participants reported at least one ACE and over one in five experienced three or more ACEs (Felitti, 1998). Subsequent studies developed on Felitti's (1998) research and sought to rectify shortcomings, such as the diversity of responders. However, findings continue to indicate a graded dose-response relationship between ACEs and negative health and well-being outcomes (Boullier & Blair, 2018), with studies suggesting that some populations are more vulnerable to experiencing ACEs due to social and

economic conditions (Centers for Disease Control and Prevention, 2022). Simply, the more ACEs experienced the higher the risk for negative outcomes. The ACE pyramid (Figure 1) illustrates their impacts on an individual's health and development

***Figure 1**: The ACE Pyramid*



Centres for Disease Control and Prevention. (n.d.). About the CDC-Kaiser ACE study. Centres for Disease Control and Prevention. Retrieved July 17, 2024, from https://www.cdc.gov/violenceprevention/aces/about.html

Studies link multiple ACEs to homelessness in adulthood, such as the removal of parent/caregivers, dysfunctional households and different aspects of abuse (physical and emotional) (Koegel et al, 1995; Herman et al, 1997; Shelton et al, 2009; Chamberlain & Johnson, 2013; Roos et al, 2013; Cutuli et al, 2017), all of which are associated to human capital (Henkhaus, 2022). The most complex forms of homeless are associated with ACEs (Fitzpatrick et al, 2013), with the early experience of trauma often resulting in mental health issues which cause further complications (Woodhall-

Melnik, 2018; Moschion & Van Ours, 2020). Prolonged or frequent episodes of homelessness are shown to be a result of trauma in childhood or adolescence (Maguire et al, 2009), and ACEs can be predictive of early age onset of homelessness (Tsai et al, 2011; Woodhall-Melnik, 2018). Chamberlain and Johnson (2013) identified the youth-adult pathway as one of five major routes into adult homelessness, emphasising the importance of early childhood experiences on adult homelessness. The social rejection that children living in poverty experience can be traumatising, drawing a connection between poverty and ACE. In her critical ethnography, Hudson (2016) highlights the trauma associated with poverty and how that manifests in adulthood in the form of insecurity and loneliness. In summary, the compounding impact of ACEs can significantly contribute to the vulnerability and marginalisation that often lead to homelessness.

Empirically, the relationship between mental health and homelessness is a frequent finding (Martijn and Sharpe, 2006; Chamberlain and Johnson, 2013; Brown et al., 2016; Williams et al., 2019; Liu et al., 2020); and is discussed further in 3.6.3. However, it is worth asserting that determining whether mental health is a cause or consequence of homelessness is not as simple as cause and effect – as has been previously discussed with other potential causes of homelessness. Substance abuse is a known coping mechanism for negative emotions associated with ACEs (Kilpatrick et al, 2000) and mental health (Thompson et al, 2010). This is also known as self-medication (see 3.6.3) and is potentially due to the prolonged diminishment of capital stocks. Most research into homelessness trajectory has some consideration for substance abuse even when their primary focus is on other matters (Fitzpatrick et al, 2011; To et al, 2016; Mabhala et al, 2017; McVicar et al, 2019; Cohen-Cline, 2021). Woodhall-Melnik (2018), when exploring the association between childhood trauma and homelessness,

highlight the contribution that substance abuse has in prolonging homeless episodes and impacting the ability to maintain stable housing. Mabhala et al (2017) posit that substance abuse plays an important role in the final stage of someone's homelessness trajectory – the breakdown of relationships. The relationship between homelessness and substance misuse is well-known and requires deeper consideration.

3.5 The Connection Between Substance Abuse and Homelessness

In UK society, illegal drugs and alcohol are available for a price (Parker et al, 2002; Pryce, 2012) and used for a variation of reasons (Bancroft, 2009; Fitzgerald, 2017). Their use cuts across social class and is a common activity. However, there is an assumption in dominant UK political and social discourse that the use of substances has a causal association with deviant behaviour (Seddon, 2006). This, accompanied by the deep-rooted conviction that all drug users will become addicted, drives the political support for the system of prohibition in UK society (Pryce, 2012). Yet, growing scientific and social evidence has proved that these assumptions are unfounded (Bancroft, 2002; Nutt et al, 2010; Fitzgerald, 2012). The reality is that the pathway to addiction often has competing socio/structural determinants which have much to do with trauma rather than a specific substance (Fitzgerald, 2017).

Homelessness aside, people who abuse substances are among the most socially excluded. Substance Use Disorders (SUD) is an umbrella term that covers addiction (Pichot, 1995); defined by Mosby's medical dictionary (2013, p.37) as the 'compulsive, uncontrollable dependence on a chemical substance', resulting in 'severe emotional, mental or physiological reactions. Whilst outside of this report they are sometimes

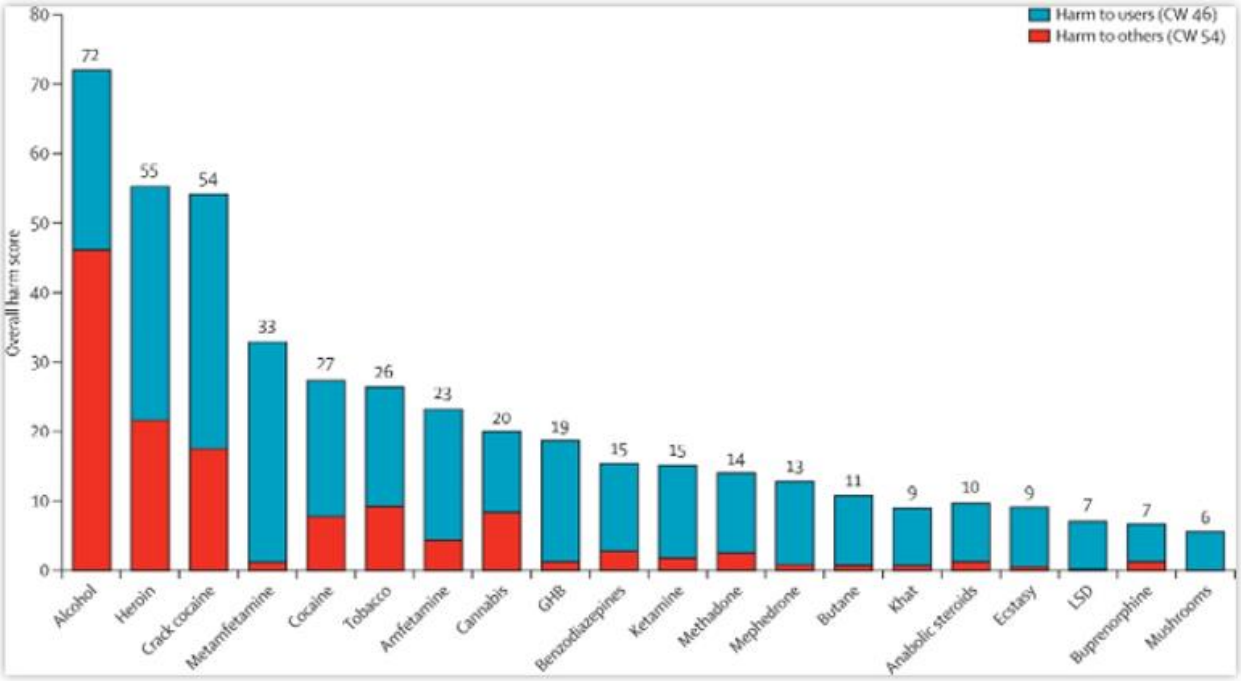
spoken of separately, SUD, drug misuse, drug abuse, substance misuse, and substance abuse, are all used interchangeably in this thesis. When mentioned they refer to the same thing – SUD. Like homelessness, SUD is a combination of factors, including neurobiological characteristics which make up addiction, in conjunction with structural/environmental factors, poverty and deprivation. Nevertheless, the risk factors for homelessness and SUD are similar (Neale, 2001) and when they occur together, they can intensify each other (Kemp, 2006). Addiction is often seen as the defining characteristic of an individual, leading to stigma and discrimination across society (Rey et al, 2019). The same case can be made for those experiencing homelessness (Toro et al, 2007).

3.5.1 Patterns, Impacts, and Trends

Decades of evidence show that SUD amongst homeless populations is high and higher than the general population (McCarty et al, 1991; Santa Maria, 2018; ACMD, 2019), with high levels of alcohol abuse also a concern (McCarty et al, 1991; Kemp, 2006; Rice, 2018). Consuming high quantities of alcohol poses various risks, including addiction, mental health disorders, crime (both as victim and perpetrator), disease, and unintentional injuries (Room et al, 2005; Ritchie & Roser, 2019). In this research, when I discuss SUD, I am also referring to alcohol. Nutt and Phillips' (2010) multicriteria analysis of drug harms, both to the user and others, scored alcohol as the most harmful substance overall. Twenty drugs were evaluated on 16 criteria: nine related to the harm they cause to the individual and seven related to the harm they cause to others. Results are illustrated in Figure 2. Subsequent studies have followed a similar process and found alcohol to have the highest overall harm score (Bourgain,

et al., 2012; Bonomo, et al., 2019). This highlights the instrumental damage of alcohol in society.

Figure 2: *Drugs ordered by their overall harm scores, showing the separate contributions to the overall scores of harm to users and harm to others*



Nutt, King, L. A., & Phillips, L. D. (2010). Drug harms in the UK: a multicriteria decision analysis. The Lancet (British Edition), 376(9752), 1558–1565

In England, from 2019 to 2020, it was estimated that 608,416 adults (18 and over) had an alcohol dependence (UK Government , 2024). Alcohol dependence is characterised by changes in the brain's stress and reward system, leading to withdrawal symptoms when consumption is stopped or significantly reduced (Becker, 2008). Repeated heavy drinking, followed by attempts at abstinence, can increase sensitivity to withdrawal symptoms and contribute to a negative emotional state, thereby increasing vulnerability to relapse and perpetuating excessive drinking (Becker, 2008). The year 2021 saw 9,641 deaths from alcohol-specific causes in the UK, the highest number recorded and a 7.4% increase from the previous year (ONS,

2022). Alcohol-specific related deaths only include health conditions where each death is a direct consequence of alcohol, not all deaths that can be attributed to alcohol (ONS, 2022). Therefore, the number of deaths from alcohol may be greater. Fallaize et al (2017) found a significant difference in high-risk drinking when comparing the dietary intake between homeless men and those transitioning into stable accommodation, with those homeless more likely to engage in risky drinking practices. Jones et al (2015) gathered data on the number of alcohol units consumed by 200 participants living in UK hostels and compared this to a general population sample. Findings showed that men living in a hostel consumed 97.1% more units per week than the general population, and women consumed 222.1% more (Jones et al, 2015). This indicates clear issues in homeless alcohol consumption in the UK.

The story is similar across other substances. A study by Flemen (1997) on 1000 predominantly young homeless people living in hostels, day centres, and the streets of London found that 88% of respondents were frequently using at least one drug and 35% were heroin users. Similarly, Downing-Orr (1996) reported that 85% of homeless youth in London and 83% of homeless youth in Sydney (Australia) were using illicit substances. Bramley et al (2015) estimated that during 2010-11, there were approximately 92,000 people in England experiencing both homelessness and SUD, out of an estimated total of 186,000 homeless individuals. Their findings were based on secondary data analysis of administrative data sets, including records from homelessness service providers, the National Drug Treatment Monitoring System, and Supporting People. Comparing this with data from The Office for National Statistics (ONS) (2020) on drug misuse across the general population in England and Wales, less than 10% had used a drug in the past year. Whilst noting potential inaccuracies

across data collected from multiple agencies, the research highlights a clear problem in homeless drug addiction.

Adding to concerns surrounding homeless SUD is the number of drug-related deaths. The ONS (2018) reported an estimated 32% of homeless deaths related to drug poisoning. As a comparison, less than 1% of deaths in the general population were a result of drug poisoning (ONS, 2018). Recent estimates show there to be a further increase with 35% of homeless deaths accounted for by drug poisoning (ONS, 2022). This is met with an overall increase in the number of homeless deaths in England and Wales (ONS, 2022). When combing drug poisoning, alcohol-specific causes, and suicide (3.6.3), they account for an estimated 57.9% of homeless deaths registered in 2021 (ONS, 2022). Death records from previous reports show that many deaths related to drug poisoning include a mention of opioids, such as heroin, on the death certificate (ONS, 2018).

Heroin is a commonly used substance within the homeless population, alongside crack cocaine (Fountain et al, 2003; Gomez et al, 2010); two drugs with a historical relationship with human difficulty, housing decay, poverty and other social disadvantages (Pearson, 2001; Bourgois & Schonberg, 2009). Heroin scored second and crack cocaine third on Nutt and Phillips' (2010) drug harm scale (Figure 2). Studies show that homeless individuals become dependent on these substances due to their functional benefits (Thompson, 2005; Martjin & Sharpe, 2006). These include keeping users warm (Ayerst, 1999), alleviating the stress associated with homelessness (Klee & Reid, 1998; Thompson, 2005), and as a method to self-medicate (3.6.3) for physical and mental health problems (Fountain & Howes, 2002; Homeless Link, 2014); often a result of previous trauma (Darke, 2013).

3.5.2 Cause or Consequence: The Complex Relationship Between Substance Abuse and Homelessness

Research suggests that SUD proceeds an individual's first homeless experience. Fountain et al's (2003) survey of 389 rough sleepers in London found that 63% attributed their first homeless episode to SUD. Similarly, Johnsen et al (1997), Fitzpatrick et al (2013) and Cohen Cline (2021) all found a strong association between SUD and entry into homelessness. Tsai & Rosenheck's (2015) meta-analysis focusing on the risk factors for veterans becoming homeless found SUD and mental illness (3.6.3) to be the most consistent and strongest risk factors. These studies indicate that SUD is a strong predictor for entry into homelessness.

Conversely, Thompson et al (2010), through qualitative analyses of data collected from 87 emerging adults receiving support from homeless services, found SUD was perceived to have a positive effect and served as a useful tool for coping with the daily stresses of homeless life. SUD as a coping mechanism for the traumas and lifestyles associated with homelessness is well-documented (Vangeest & Johnson, 2002; Tyler & Johnson, 2006; Johnson & Chamberlain, 2008; Thompson et al, 2010; Tyler et al, 2013). However, whilst SUD may initially serve a functional purpose, it ultimately prolongs the experience of homelessness (Johnson & Chamberlain, 2008). These findings suggest that SUD often develops after homelessness as a form of self-medication (3.6.3) to cope with hardship but can be counterproductive as it may extend its duration.

Kemp's (2006) longitudinal research highlights the dynamic phenomenon between homelessness and SUD. Participants entering treatment were monitored to determine the prevalence of homelessness; key risk factors; and trigger events associated with

movement into or out of homelessness over time. Nearly one-quarter of participants were homeless upon entry and high levels of movement in and out of homelessness were observed over eight months. Kemp (2006) found multiple relationships between homelessness, SUD, and other risk factors (3.4). A strong relationship was found between social factors and SUD with the most likely entrance into homelessness being a relationship breakdown. Relationships with children and parents also had an impact on homelessness. This highlights a link between the diminishment of social capital, SUD, and entry into homelessness. (Baxter et al, 2018).

In summary, the relationship between homelessness and SUD is complex. Whilst SUD is a significant factor, it does not fully explain homelessness. It intersects with other causes (3.4) and is often a coping mechanism for underlying issues or the hardship of being homeless. Effectively addressing SUD within the context of homelessness requires a comprehensive approach that also addresses mental health, social support, and economic and housing instability to promote long-term recovery.

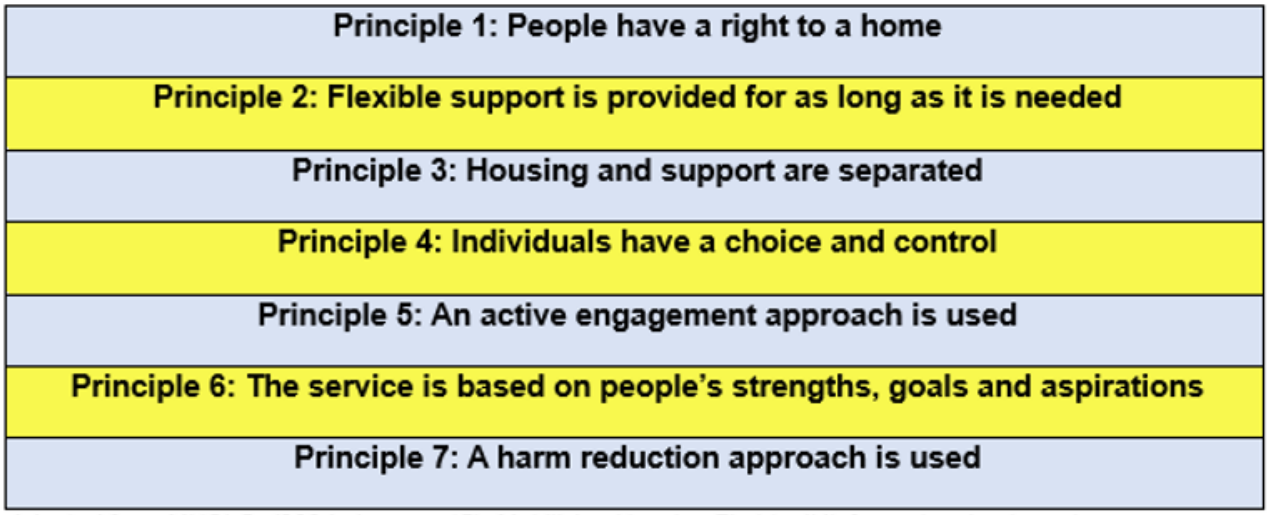
3.5.3 Combatting SUD and Its Impact on Homelessness

Carver et al (2020) identified that those who are homeless and need treatment for SUD require complex individual support. However, this level of support is not always accessible for homeless individuals who lack the means to access the recovery-related support that is crucial in addressing their needs (Parkes et al, 2019; Carver et al, 2020). A variety of suggestions, supported by international evidence, have been made by policymakers and other institutions to reduce homeless drug-related harms.

The Housing First (HF) model, an initiative originating from the US where it has indicated great success (Mares et al, 2004; Edens et al, 2011), is a contrast to the

‘Treatment First’ model that is commonly used in the UK to provide temporary accommodation in conjunction with services to tackle health needs, particularly SUD (Baxter et al, 2018). HF instead aims to acquire clients permanent housing as the first step in addressing homelessness – it is not contingent on compliance with substance or health treatments (Tsemberis & Asmussen, 1999). The model targets those with complex needs and histories of homelessness or those at significant risk of experiencing homelessness in the future. HF has been commissioned by local authorities since 2010 in England to address gaps in homelessness services and the key principles (Figure 3) underpinning the model was launched in 2016. Research by Bretherton and Pleace (2015) suggests that HF was ready to follow the successes that had been documented in North America and other Scandinavian countries (Gaetz et al, 2013; Hopp, 2019), with results indicating that 70-90% of HF residents remained in their homes, and this resulted in a positive impact on their emotional wellbeing and physical health. In 2017 the UK government announced a £28 million investment to test the delivery of HF (Ministry of Housing, Communities & Local Government, 2020).

Figure 3: *The Housing First Principles*



Adapted from MHCLG. (2024, January 15). Mobilising Housing First toolkit: from planning to early implementation. Retrieved from GOV.UK: https://www.gov.uk/government/publications/housing-first-pilot-national-evaluation-reports/mobilising-housing-first-toolkit-from-planning-to-early-implementation#fn:4

As of 2020, HF in England has expanded to over 100 services; however, due to short-term funding the perpetual view of HF as a 'pilot' remains. Local authorities can make HF integral to their local homelessness offer, yet this would move them away from the flexibility of a pilot phase that allowed for significant flexibility and informality. Local authorities now face the option to enter the formal procurement processes required to initiate HF but face the potential risk of disruption to service delivery (Homeless Link, 2022). Still, the recognition of HF as an important innovation in tackling homelessness (Crisis, n.d) offers hope that local authorities will commit.

Harm reduction involves strategies designed to reduce the adverse effects of certain health behaviours without necessarily eliminating the behaviours themselves. A large amount of harm reduction literature focuses on drug abuse and specific strategies to reduce associated harms (Hawk et al, 2017). Considering the record levels of drug-related deaths in the UK (3.5.1) harm reduction is vital, especially for homeless individuals (ACMD, 2019). The current practice of harm reduction in the UK includes

needle exchange programmes which are effective in the reduction of blood-borne viruses (BBV) (Ritter & Cameron, 2006; Palmateer et al, 2010), allowing Naloxone, a medication that rapidly reverses opioid overdoses, to be taken home by those trained to administer it (Langham et al, 2018; Irvine et al, 2018), and the use of opioid substitution therapy – commonly known as methadone maintenance (Amato et al, 2005; March et al, 2006).

The use of supervised injection sites, also known as drug consumption rooms (DCRs), is viewed as a productive method for reducing homeless drug-related harms (EMCDDA, 2017). They provide a safe space for vulnerable individuals to use drugs under the supervision of trained professionals who can intervene in case of an overdose (Holland et al, 2022). These facilities are usually located in healthcare settings and allow the consumption of pre-obtained substances in hygienic and safe conditions, with medically trained staff supervising and providing clean injection equipment (ACMD, 2016; Jauffret-Routside & Cailbault, 2018). They also present the opportunity to engage with hard-to-reach populations (homeless) and provide psychosocial support and other evidence-based interventions (Holland et al, 2022). Their effectiveness is documented (Hedrich et al, 2010; Potier et al, 2014), with evidence highlighting a reduction in fatal overdoses in areas where DCRs have been introduced (Holland et al, 2022). Decreases in risky injection practices and increased uptake of drug treatment have also been reported (EMCDDA, 2018; Caulkins et al, 2019). The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) support the use of DCRs. In Europe, as of June 2023, DCRs were active in Belgium (2), Denmark (5), France (2), Germany (25), Greece (1), Luxembourg (2), Netherlands (25), Norway (2), Portugal (3), and Spain (16) (EMCDDA, 2023). There have been proposals for the development of DCRs in the UK. However, they are met by a

confounding legal framework as operation includes service users' possession of illegal, controlled substances; therefore, subject to a range of civil and criminal law offences (Fortson & McCulloch, 2018). In response to record-breaking drug-related deaths in the UK (3.5.1), more than 80 organisations made up of academic, medical, and the third sector called for the piloting of DCRs (Holland et al, 2022). Yet, the UK government repeatedly dismissed their introduction. The government's argument that there is insufficient evidence to support DCRs holds little substance considering international evidence. The moral argument that they condone drug use reverts to responses during the 1980s to the introduction of needle exchange programmes (Stimson, 1995) – which are now widely accepted as integral to the reduction of BBV. An unsanctioned mobile DCR was in operation in Scotland (Glasgow) between 2020-21, with no support from national or local governmental agencies. The DCR was opened by Peter Krykant who acquired a second-hand minibus and appropriately equipped it. The minibus was later replaced with a converted ambulance, providing higher capacity and space for voluntary staff. Police did not intervene in its operation but would occasionally monitor its location and respond to comments from the public. Over 800 injections were recorded at the service with no deaths (Shorter et al, 2022). The DCR also acted as a food and distribution site and provided informal psychosocial support. Due to no official funding or support, staffing the service became difficult. Volunteers' liberty was at risk along with their professional standings and earnings from other sources. A local university issued a warning to students to not volunteer at the service as doing so would risk barring them from practice if convicted of a criminal offence. The DCR closed in May 2021 (Shorter et al, 2022). However, in 2023 the Scottish government backed the pilot scheme of a DCR facility in Glasgow. It is due to

open in 2024 and will be the first of its kind in the UK. This offers hope for future implementation.

3.6 Homelessness and Health

Multiple morbidities and premature death rates among the homeless population are significantly higher than the general population (Budd, 2018). An established link exists between socioeconomic status and health outcomes (Aldridge et al, 2018). Alridge et al's (2018) systematic review reported that the all-cause mortality among the homeless in high-income countries is three to 11 times higher compared to those housed, indicating a significantly increased risk of death. The 'tri-morbidity' of SUD, mental health, and physical health among the homeless contribute to heightened mortality and is associated with increased emergency department admission, hospital admissions, and use of respite care (Stafford and Wood, 2017; Luchenski et al, 2018; Budd, 2018). The following sub-sections will consider physical (3.6.1) and mental health (3.6.2) individually while acknowledging their interconnections. The discussion then shifts to the prevalence of disability in the homeless population (3.6.4).

3.6.1 Physical Health

Physical health issues amongst the homeless are prevalent, with an increased chance of cardiovascular (ONS, 2018) and respiratory conditions (Smith et al, 2019) posing a substantial risk of death (Lewer et al, 2019). In addition, low levels of physical activity (PA) (Victor et al, 1993; Stringer et al, 2019; Smith et al, 2019) and poor nutrition (Fallaize et al, 2017) contribute towards poor physical capital.

A disproportionate number of infectious diseases is evident, including HIV, Hepatitis and Tuberculosis (Baggett et al, 2010). Data from Scotland showed that people were two times more likely to have a BBV if they had previously experienced homelessness. A main predictor for contracting a BBV was the reusing/sharing of injection equipment, with this trend seeming to have increased in the homeless population (Health Protection Scotland, 2018). A strong association has been found between Tuberculosis and Hepatitis C among homeless opiate and crack cocaine users (Aldridge et al, 2018), with both these drugs commonly used intravenously (Drug Science, 2021). Mirroring the increase in opiate-related deaths (3.5.1), England has seen a rise in the number of serious bacterial infections (measured through hospital statistics) among both male and female injection drug users (Lewer et al, 2017). This data coincides with evidence that indicates that the homeless are over-represented in hospitalisations due to bacterial infections (Fazel et al, 2014; Ly et al, 2019). This underscores the urgent need for implementing DCRs and promoting needle exchange services, previously discussed in 3.5.3

Victor (1993) offers historical insights into the physical health of the homeless population that can be supported by recent research. Through a large-scale survey of homeless adults (16+) in the North-West Thames Regional Health Authority, Victor (1993) found that over half of respondents reported the presence of long-term illness or disability. Alongside the negative effects that high rates of SUD have on the homeless (3.5.1), low rates of exercise, poor diets, and low immunisations were all attributable to the poor physical health that respondents reported (Victor, 1993). Research by Smith et al (2019) suggests that poor physical health outcomes and low levels of PA continue after exiting homelessness. This highlights the need for targeted

health interventions and support systems to address and improve the long-term physical health of individuals transitioning out of homelessness.

3.6.2 Mental Health

Good quality mental health is fundamental for overall wellness, function, and health (Smith, et al., 2017). The World Health Organisation (WHO) (2004, p.10) define mental health as

"a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make contribution to his or her community".

Homelessness is considered both a cause and consequence of mental illness (Perry & Craig, 2015). The prevalence of serious mental conditions, like schizophrenia and major depression, is high (Budd, 2018; O'Carroll & Wainwright, 2019) and such disorders can lead to suicide ideation (Fitzpatrick et al, 2007). St Mungo's (2009), a homeless charity, reported that 76% of the street homeless people they interviewed had a mental health problem. This was either diagnosed by a doctor (65%) or self-identified (11%) (St Mungo's. 2009). Furthermore, a survey of the homeless population in Nottingham discovered that one in five had been previously sectioned under the Mental Health Act 2007. Many respondents reported experiencing issues surrounding their mental health, often undiagnosed, for several years, frequently starting in childhood or adolescence (Reeve et al, 2018). International evidence has shown high rates of psychological issues in homeless populations (Prinsloo et al, 2012; Lippert & Lee, 2015). Krausz et al's (2013) study aimed to determine the standardised rates of mental disorders amongst 500 homeless adults in Vancouver. The findings revealed

that 92.8% of participants met the criteria for a current mental health disorder. The research outlines the homeless mental health crisis. It is intertwined with other causes of homelessness, such as poverty or housing insecurity, which are stressful and can trigger or exacerbate mental health problems.

Turning to drugs as a coping mechanism is common (Klee & Reid, 1998; Gray et al, 2021). The self-medication theory is underpinned by the idea that individuals use alcohol or drugs to relieve uncomfortable emotional states or physical pain, rather than purely seeking euphoria (Henwood & Padgett, 2007). Before the theory was established, researchers had already hypothesised that depression provides an impetus for SUD and that it serves as protection from mental anguish (Rado, 1984). Khantzian (1985), postulated that psychoactive substances are used by people to alleviate turmoil in four areas – emotions, self-care, self-esteem, and interpersonal relationships. An established clinician, Khantzian's model was founded on the recognition that a number of his heroin-dependent patients had historic issues with aggression and/or legitimacy of personality and that many of his patients used heroin to relieve feelings of anger, dysphoria and rage (Khantzian et al, 1974). It is under his theory that physical dependence on heroin and other opiates is a result of continuous use as a coping mechanism for distress (Khantzian et al, 1974). The theory has been expanded to include other drugs (Khantzian, 1997). Research by Smith et al (2017) and Hawn et al (2020) support the self-medication hypothesis by finding a positive relationship between SUD and low mental health status. Simply, faced with the challenges of homelessness individuals often turn to substances as a method of coping. This behaviour is explained by self-medication theory.

Problems surrounding mental health are a significant determinant of suicide risk (Bolton & Robinson, 2010; McLaughlin, 2012). Premature mortality, a characteristic of

UK homelessness, is related to an increased likelihood of suicide (Crisis, 2011; 2019; Patten, 2017). Several studies have examined and found an association between mental health, suicidal behaviours, and homelessness (Desai et al, 2003; Torchalla et al, 2012; Coohey et al, 2015). Through analysing 457 homeless adults residing at three federally funded emergency shelters, Coohey et al (2015) identified that depressive disorders and other sources of psychological pain (e.g., relationship problems) had a significant association with suicidal thoughts. The ONS (2020) reported that suicide among the homeless increased by 30.2% in one year. SUD is a common risk factor for suicide (Bolton & Robinson, 2010; Howard et al, 2010). There is a significant prevalence of suicidal behaviour found amongst inhalant drug abusers (crack cocaine) (Howard et al, 2010), injection drug users (Havens et al, 2006), and heroin users (Darke & Ross, 2002). All these substances and drug-taking behaviours have a strong relationship with homelessness (3.5.1). Prigerson et al (2003) conducted a large-scale study on suicide ideation and attempts among clients facing homelessness and mental illness. They found an interactive relationship between age, SUD, and suicidal behaviours. Although no direct link between SUD and suicidal actions was established, the study revealed that SUD significantly increased suicide risk among older adults experiencing homelessness (Prigerson et al, 2003). Additionally, Walsh (2012) reported that homeless participants who suffered from both SUD and mental illness exhibited higher rates of suicide attempts compared to participants who had only an SUD or mental health disorder. When homelessness, poor mental health, and SUD combine and are left untreated, the risk of suicide increases.

3.6.3 Homelessness and Disability

Disability, from a medical perspective, describes a range of clinical health conditions. This includes conditions present at birth, progressive conditions, developmental conditions, and impairments because of injury (Stone & Wertans, 2023). The World Health Organisation (WHO) acknowledge that disability is an interaction between health, and personal, and environmental factors (WHO, n.d.). This suggests that social environments that are inaccessible are disabling and that by removing barriers to social participation the impact of disability can be reduced or negated (Stone & Wertans, 2023). According to the Equality Act 2010, a person is considered to have a disability if they have substantial physical or mental impairment that impacts their ability to complete normal daily activities long-term. The Department for Work and Pensions (2022) estimated that 14.6 million people in the UK had a disability, roughly one in five.

Individuals with disabilities face significant social, political, and economic marginalisation that can put them at risk of homelessness, such as finding employment and financial instability (Stone & Wertans, 2023). This is despite them being classed as priority need (3.1). Stone and Wertans (2023) revealed an increase of 73% in the number of people made homeless by physical ill health or disability between 2018 and 2022. Whilst a contributory factor to this increase could be due to the increasing number of disabilities reported in the general population (Kirk-Wade, 2022), it could also indicate that more people with disabilities are being made homeless because of increased difficulties in a social and economic context (Stone & Wertans, 2023). However, statutory data often excludes individuals with disabilities who are not categorised as being owed housing duty. Therefore, ‘hidden disabilities’ which include,

cognitive, neurodevelopmental, and physical conditions are not accounted for. These include Autism and Attention Deficit Hyperactive Disorder (ADHD). Autism is a lifelong diverse condition characterised by challenges in social communication and the presence of restrictive, repetitive behaviours and interests (American Psychiatric Association, 2013). There is concern that homelessness among these people is being underrepresented in official data (Stone & Wertans, 2023). Studies indicate that autistic adults face challenges in gaining and retaining employment, which can result in poverty (Nicolaidas et al, 2015). Churcher et al (2018) screened the entire caseload, 106 people, of a UK homeless outreach team to investigate the prevalence of autism among long-term homeless people. Twelve-point five per cent of participants screened positive for autism based on the *Diagnostic and Statistical Manual of Mental Health Disorders* (5th ed.) (DSM-V) and a further 8.5% had autistic traits that were not sufficient to meet DSM-V criteria (Churcher et al, 2018). Further research by Kargas et al (2019) estimated an 18.5% prevalence of autism in a sample of 65 participants using homelessness services. The concern is that the prevalence of autism in the general population is between 1-2% (Stone & Wertans, 2023); therefore, the figures are significantly disproportionate and support is needed.

3.7 The Benefits of Exercise

Physical fitness is a set of attributes that individuals have or achieve (Caspersen et al, 1985). It has been defined as the ability to carry out daily tasks with vigour and alertness, without unnecessary fatigue and with enough energy to enjoy leisure-time pursuits and to meet unforeseen emergencies (Park, 1989). It is intrinsically related to physical capital. The terms physical exercise (PE) and physical activity (PA) have been

used interchangeably as they share common elements (Taylor, 1983). PA is characterised by bodily movements produced by the skeletal muscles consequently resulting in energy expenditure (Caspersen et al, 1985). Whilst PE shares this characteristic, it is not entirely synonymous with PA as PE 'implies a regular, structured, leisure time pursuit' closely related to sporting activities (Salmon, 2001, p.34). With PE recognised in this way, it can be viewed as a subset of PA (Caspersen et al, 1985). Where physical fitness enters the equation is that it is a concept that is mainly determined by PA patterns (Blair et al, 2001) and therefore related to PE. With the intricate relationship between these concepts outlined, for this thesis, PE and PA are used interchangeably.

The assumption that PA is beneficial to physical well-being was first empirically validated by Morris et al (1953; 1966) when researching the coronary heart disease death rates of sedentary bus drivers and telephonists. As society has become more sedentary (Fallon et al, 2005), further research analysing the benefits of an active lifestyle has surfaced (Haskell et al, 2007) and is constantly evolving (O'Donovan et al, 2010). It is medically validated that regular exercise can reduce the risk of coronary heart disease (Kelley & Kelley, 2008), strokes (Batty & Lee, 2002), a range of cancers (Rogers et al, 2008), and overall mortality (NHS, 2018). Lifestyle and genetic factors are said to interact to establish an individual's risk of chronic diseases; supposing a predictive power in identifying groups at risk (O'Donovan et al, 2010). Although not specifically mentioned in their work, O'Donovan et al (2010) identify populations suffering from the negative health consequences associated with homelessness (3.6.1) as likely benefiting from regular exercise.

Alongside growing literature on the physical benefits of exercise, there has been an increased amount of academic interest in its psychological impacts. Whilst the

psychological benefits of exercise are more ambiguous than the physical, mainly since psychological conditions are harder to measure (Scully, 1998), the relationship between the two has been established for some time (Morgan, 1969; Biddle & Mutrie, 2007). However, until the last two decades, assertions regarding the psychological benefits have usually come before empirical evidence (Salmon, 2001). Morgan's (1969) is an early example of empirical validation for the mental benefits of exercise. His findings demonstrated that physically unfit patients of a psychiatric facility were more depressed than their fit counterparts (Morgan, 1969). From then, a range of longitudinal and cross-sectional studies have consistently associated higher levels of PA with better mental health (Salmon, 2001), lessening symptoms of anxiety, depression and stress (Paluska & Schwenk, 2000; Wipfli et al, 2011). Subsequent meta-analysis has shown that benefits from PA tend to be more pronounced in those who suffer from depression and anxiety (Wegner et al, 2014) and have highlighted a strong relationship between exercise and improved mental health outcomes (Asmundson et al, 2013). Exercise has also been shown to reduce the risk of neurological diseases, such as Alzheimer's, and protect the brain from the damaging effects of ageing (Kramer et al, 2006; Vivar, 2015; Duzel et al, 2016).

The homeless population is at increased risk for various physical and psychological health conditions (3.6). Research supports the use of PE in mitigating these conditions, providing a strong rationale for implementing exercise interventions for this group. However, research on the benefits of exercise for the homeless remains limited (Kendzor et al, 2017), despite documented evidence of the positive impacts (Sherry & Strybosch, 2012; Gregg & Bedard, 2016; Taylor, et al., 2019).

3.8 Chapter 3 Conclusion

Homelessness in the UK is increasing (3.1). Several policies/initiatives have been implemented since 2002 to reduce it but have failed. The recent Ending Rough Sleeping for Good (2022) set an unrealistic target of ending rough sleeping by 2024. This is indicative of a lack of acknowledgement and care for the homelessness issue by the government.

Data from the UK, USA, and Australia has been synthesised (3.2). Variations of structural contexts have been highlighted as a driver of different subjective homelessness experiences. However, key similarities have been outlined to inform my decision to use data from across these countries interchangeably. Differing research traditions in each country impact homelessness research (3.2.2). Despite these differences, a full understanding of the issue is missing. Through the sociological imagination and consideration of the structure-action dualism, the gap between homelessness research and understanding of it causes can be filled (3.3). Discussing the sociological imagination and its application to homelessness serves as an introduction to my theoretical lens outlined in Chapter 5.

Research indicates a variety of factors that can contribute to individuals experiencing homelessness in their lives (3.4). There is a significant connection between homelessness and SUD (3.5). A large amount of literature demonstrates high levels of SUD amongst the homeless population and this is a concern. Under the Homelessness Reduction Act 2017 local authorities were required to include tailored support for homeless drug users; the evidence suggests a failing of this and the need for greater emphasis to be placed on supporting them. The HF approach and various

harm reduction tactics offer potential avenues where drug-related harms can be reduced (3.5.3).

Both the physical (3.6.1) and mental health (3.6.2) challenges associated with homelessness have been explored, and a discussion on the prevalence of disability (3.6.2). The negative health impacts are clear, with psychological health issues often intersecting to result in premature mortality. The high prevalence of SUD further contributes to physical and mental health issues, with substances used to self-medicate for mental distress.

Low levels of PA within the homeless community were noted in 2.2 and 3.6.1. The power of PA to reduce/prevent physical and mental illnesses is empirically, and medically, validated (3.7). With the circumstances surrounding homeless health described and the power of PA recognised, the following chapter reviews literature which investigates the impacts of PE on homeless individuals and/or SUD.

Chapter 4: Exercise as an Intervention: A Critical Review of the Evidence

This chapter explores research that investigates relationships between PE, homelessness and SUD. As covered in 3.5, there is a substantial link between homelessness and SUD. This, and the potential benefits of PE for both drug abusers and the homeless being similar, allow for findings related to each to be discussed interchangeably.

101 distinct pieces of research have been reviewed. This number is made up of 63 SUD and exercise studies; 28 homelessness and exercise studies, and 10 meta-analyses. Not all studies included in meta-analyses were relevant. For example, Dawes et al (2024) contained research related to gardening as an intervention for people experiencing homelessness. Relevant studies were pulled and placed within my own review tables (Appendix 11). All literature involving SUD is based on abuse/addiction not general use. Any literature that focused on Tobacco only was excluded due to its use alone having relatively small social impacts. I cannot claim that every piece of peer-reviewed research in the field has been included in this review; however, the literature search followed a systematic process.

To search for literature, Sheffield Hallam University's (SHU) library facilities were used. Through SHU I had access to a range of archives and journal databases that included Science Direct, JSTOR, PubMed Central and PsycINFO, as well as search engines including Google Scholar. Various key-term Boolean logic searches were conducted. For literature relevant to homelessness, terms like homeless and homelessness were used in conjunction with physical exercise or PE, physical activity or PA, exercise,

activity, sport, health, recovery, capital, recovery capital, addiction, rehabilitation, drug(s), routes, pathways, and definitions. Citation and reference list searching of all literature was completed. At the point when new literature was not being identified, I signed up to receive email alerts for newly published research and content alerts for new journals using the same search terms.

Appendix (11) contains research (n=63) for the PE and SUD Category, the homelessness and exercise category (n=28), and the meta-analysis used (n=10). The research findings have been converged and are discussed in terms of the outcome variables they focused on. These are substance outcomes (4.1), physical, psychological and psychosocial outcomes (4.2), exercise engagement (4.3), SUD, homelessness and exercise (4.4).

4.1 Substance Outcome

Of the 63 pieces of research in the PE and SUD category; 18 focused solely on alcohol (Gary et al, 1972; Frenkel et al, 1974; Sinyor et al, 1982; Palmer et al, 1988; Donaghy, 1997; Ermalinski et al, 1997; Read et al, 2001; Ussher et al, 2004; Brown et al, 2008; Weinstock et al, 2008; Brown et al, 2014; Hallgren et al, 2014; Brown et al, 2016; Ciccolo et al, 2016; Roessler et al, 2017; Jensen et al, 2019; Gawor et al, 2021; Hallgren et al, 2021); seven on heroin/opiates (Powers et al, 1999; Okruhlica et al, 2001; Li et al, 2002; Neale et al, 2012; Beitel et al, 2016; College et al, 2017); four on methamphetamine (Rawson et al, 2015; Rawson et al, 2015; Wang et al, 2016; Zhu et al, 2021); one on methadone (Stoutenberg et al, 2012); one on Cannabis (Buchowski et al, 2011), with the remainder (n=32) either not stating a substance or involving multiple.

Positive effects from PE on SUD in terms of consumption reduction or complete abstinence were seen in most studies. Read et al (2001); Sinyor et al (1982); Murphy et al (1986); Ermalinski et al (1997); Brown et al (2008); Weinstock et al (2008), Roessler (2010), Buchowski et al (2011), Brown et al (2014), Hallgren et al (2014), Diamantis et al (2017), Ellingsen et al (2020), Gawor et al (2021), Hallgren et al (2021), and He et al (2021) all observed that engagement in PE either reduced consumption or allowed abstinence to be maintained when compared to a control group. However, Gary et al (1972); Frenkel et al (1974); Palmer et al (1988); Donaghy (1997) found no evidence of reduction in substance intake or significant differences in abstinence rates to control groups. Yet, they noted significant improvements in psychological well-being, which is discussed in 4.2. Research from Ussher et al (2004) found a decreased urge to drink during exercise but not following. Therefore, most research highlights the positive impact of PE on substance outcomes.

4.2 Physical, Psychological and Psychosocial Outcomes

Unhjem et al (2016), through their exploration of maximal strength training as physical rehabilitation for patients with SUD, found improvements in one repetition max on lifts such as the hack squat. Further improvements to power/strength were found in Donaghy (1997) and Fitzgerald (2017). Aerobic, Vo2 max, and lactate threshold developments were observed in Mamen et al (2009; 2010; 2011) and Sinyor et al (1982). Other physical developments included lower mean resting pulse rates and diastolic blood pressure (Frenkel et al, 1974), decreased BMI (Brown et al, 2008), declines in injuries and muscle pains (Gimenez-Meseguer et al, 2015), and decreases in body fat (Sinyor et al, 1982). However, positive changes or significant differences in

physicality were not always observed (Palmer et al, 1988; Burling et al, 1992; Weinstock et al, 2008). Burling et al (1992) and Palmer et al's (1988) studies consisted of low-intensity exercise. In Palmer et al (1988), the exercise group consisted of 20 minutes of jogging or walking, three times a week for four weeks. Arguably, the intensity and duration of exercise did not allow enough time for physical changes to occur. In the case of Weinstock et al (2008), few participants completed more than two exercise-related activities over the 12-week study period, restricting any fair measurements to be made on physical developments.

Randers et al (2012) examined the effects of 12-week small-sided street football and fitness training sessions on the physical fitness of homeless men. Findings showed that regular participation in football training improved cardiovascular health and can be an effective activity to promote physical fitness (Randers et al, 2012). Randers et al (2018) conducted a similar study but focused on homeless women. Findings were comparable to the previous Randers et al (2012) study; however, women were observed covering more distance during games and therefore received more physical benefits (Randers et al, 2018). Street football was also used by Helge et al (2014) to investigate the health-enhancing effects of the sport for homeless men, with their investigation consisting of 12 weeks of training. Physical benefits were observed with the musculoskeletal impacts being of interest (Helge et al, 2014). Other community-based PA research, conducted by Malden et al (2019) with 'street fit' as an intervention, established that participants' engagement with exercise positively correlated with their physical fitness levels and the choices they were making regarding their health behaviours.

All previously mentioned studies in this section accounted for psychological measures. However, several focused specifically on such outcomes. Of all to investigate

psychological developments, 22 found positive changes. Positive developments ranged from an improved internal locus of control (Ermalinski et al, 1997), increased subjective measures on esteem, self-perception and wellbeing (Palmer et al, 1988; Sherry & Strybosch, 2012; Malden et al, 2019), decreases in anxiety, depression and social phobia (Frankel et al, 1974; Palmer et al, 1988; Donaghy, 1997; Vendamurthachar et al, 2006; Mamen et al, 2011; Rawson et al, 2015; Fitzgerald, 2017), decreases in stress (Knestaut, 2010), all co-morbid conditions associated with addiction. Rawson et al (2015) identified significant reductions in depression and anxiety when determining the impact of an eight-week exercise programme on recently abstinent methamphetamine-dependent individuals. Measurements were made using the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI) which, whilst lacking representative norms and therefore doubtful interpretation objectivity, remains a highly internally consistent measurement tool with high content validity (Richter et al, 1998). Donaghy (1997), Vendamurthachar et al (2006), and Marefat et al (2011), all used the BDI as a measurement tool in their studies and found significant reductions in depression and anxiety. Five pieces of research used ethnographic techniques to investigate perceived psychological developments, and all saw positive developments (Neale et al, 2012; Fitzgerald, 2017; Clift, 2019; Fitzgerald et al, 2020; Koch, 2020). These qualitative works offer emic insight and utilise Bourdieu's theory of practice (Chapter 5).

Roessler (2010) measured body image and linked increases in body perception with improved self-confidence. These changes to the body are framed by Langdale and Roderick (2014) as an identity transformation that leads to subsequent desistance from substances. Both Clift (2019) and Koch et al (2020) found that reconstructions of the self were made through the medium of PA for homeless participants. Koch et al's

(2020) weekly hockey games served as crucial sites for participants working to restore their sense of self. These individuals, often carrying significant trauma and viewed as lacking self-governance and personal responsibility., used the games to reclaim their self-worth. Self-identity improvements were observed in Sherry & Strybosch (2012) longitudinal research into Australia's street football community programme. Notably, the research from Clift (2019), Koch et al (2020), and Sherry and Strybosch (2012), collected data for over three years allowing for detailed measurements of the changes to the self. Of the seven studies that discovered no developments of psychological well-being, not all looked to account for developments within the psychological domain. Sinyor et al (1982) may not have found significant developments, but they acknowledged the psychological benefits of exercise in treating alcohol use disorders (AUD). They suggested more research was needed to explore this potential relationship, which subsequent studies have arguably addressed.

Overall, research within this category found positive developments in mental health. However, Trejo et al (2017) and Magee and Jeanes (2013), who conducted studies into the Homeless World Cup (HWC)[6], noted negative impacts. Trejo et al (2017), found suffering defeat and the consequent feeling of humiliation resulted in detrimental feelings of stigma and the inability to compete at some stages. Degradation and ridicule from the opposition and the crowd mirrored the experiences and interactions that the homeless face in wider society (Magee & Jeanes, 2013). The social tensions that arise from competing in the HWC have been found to lead some players to cope through substance abuse or isolation (Magee & Jeanes, 2013; Donnelly et al, 2024). Bates et al's (2023), findings on the impact of street soccer are positive; however, they

[6] An annual football tournament where teams of homeless people from various countries compete organised by the Homeless World Cup Foundation. The first tournament was held in 1999, and in 2008 it added a women's competition. Since 2010 all tournaments have featured both men's and women's teams.

share concerns about the suitability of street soccer as an intervention for homeless, or socially disadvantaged individuals, due to the inevitable competition it creates. The findings produced emphasise caution in using competitive sports as a homeless intervention (Kemter et al, 2024). On the contrary, O'Rourke et al's (2024) study examining the experiences of former or current homeless individuals participating in a street soccer programme found multiple positive impacts, including the promotion of psychological safety and friendly competition. Street soccer and the HWC are the most researched interventions for homeless individuals, or those who have experienced homelessness, with a total of 14 studies (Sherry, 2010; Sherry & Strybosch, 2012; Randers et al, 2012; 2018; Peachy et al, 2013; Magee & Jeanes, 2013; Sherry & O'May, 2013; Helge et al, 2014; Curran et al, 2016; Trejo et al, 2017; Okada & Kashu, 2020; Whitley et al, 2022; Bates et al, 2023; Donnelly et al, 2024; O'Rourke et al 2024). All studies identify positive outcomes across physical, psychological, and psychosocial domains; however, the detrimental impact that competitive support may have on homeless individuals should be taken into consideration when implementing an exercise/sporting intervention.

Matsa (2002) proposed that successful SUD treatment involves changes to the addicted individual's lifestyle, with alterations involving a process that includes their body, psychology, and social identity. Recognition of these broader psychosocial outcomes was evident in eight studies (Burling et al, 1992; Powers et al, 1999; Neale et al, 2012; Landale & Roderick, 2014; Gimenez-Meseguer et al, 2015; Diamantis et al, 2017; Fitzgerald, 2017; Kemter et al, 2024). Kemter et al (2024) conducted 55 in-depth interviews with homeless individuals with concurrent SUD who were part of an organised running group. Data was collected after four weeks of practice, or when qualified to run five kilometres, and findings included perceived benefits of improved

resiliency, ability to set goals, and emotional state, increased coping strategies, and social connectedness (Kemter et al, 2024). Landale & Roderick (2014) followed the 12-month journey of two offenders with SUDs engaged in a community-based sports programme (Second Chance). Their research, alongside Fitzgerald (2017), applies the RC model to the field of exercise and SUD, finding meaningful activities within a community facilitating the acquisition of supportive social networks. The ability of sports programming to build community belonging for homeless individuals was seen in the literature (Sherry, 2010; Peachy et al, 2013; Koch et al, 2020; Oudshoorn, 2022; Bates et al, 2023). Furthermore, positive social outcomes such as the development of friendships (Neale et al, 2012; Sherry & Strybosch, 2012; O'Rourke et al, 2024) and securing employment and accommodation (Burling et al, 1992; Grimes & Smirnova, 2020; Bates et al, 2024) was found in the research reviewed.

Dawes et al (2024) produced a systematic review of the evidence of PA interventions for people experiencing homelessness. A total of 18 studies were selected after screening with research suggesting that PA interventions for homeless people can benefit health and well-being, which can translate into wider life (Dawes et al, 2024). Out of the 18 studies, there was limited positive quantitative evidence. Studies which produced quantitative findings were inconclusive (Dawes et al, 2024). This highlights a significant gap in the research and calls for quantitative insight into the impact that exercise has on the health and well-being of homeless individuals.

4.3 Exercise Engagement

Neale et al (2012), through ethnographic interviews with substance users, found that participants had high levels of interest in engaging with PA. This interest was

maintained during periods of drug abuse, with continued engagement in activities like walking and cycling. However, little structured sport or exercise was completed during periods of heavy use (Neale et al, 2012). Kremer et al's (1995) study explored the perspective of practitioners within the field of recovery rather than the service users themselves. Their research revealed a strong belief that PA was an important part of treatment (Kremer et al, 1995). From a service user's perspective, Abrantes (2011) found that 95% of the 97 participants who completed their survey expressed an interest in engaging in an exercise programme designed specifically for their SUD rehabilitation. In support, Stoutenberg et al (2015) highlight that individuals entering residential AUD treatment were in favour of receiving exercise counselling as part of their treatment. Link et al (2015), through evaluating interest in an exercise program in supplement to SUD treatment for veterans, also identified high levels of interest. Evident here is a desire from service users to engage in PA, often in conjunction with their treatment, but also an expert belief that PA can play an important role in recovery.

Regarding previous exercise engagement, Okruhlica et al (2001) reported that 75% of SUD participants took part in regular PA until age 15. They also found that 17% started their substance abuse following the end of their sporting activities (Okruhlica et al, 2001). Current engagement was measured by Read et al (2001) with 40% of the 105 participants in treatment for AUD reporting exercising less than once a week, and 46% exercising three times a week or more, with an average duration of 40-49 minutes. Mamen et al (2009), through assessing the physical fitness of a group of substance abusers, saw that participants' mean Vo2 max was just below the national average. These results are of interest as they suggest that the fitness levels of service users do not differ that much from the general population.

For homelessness, the apparent ambition to take part in exercise, or exercise programmes, was high across studies – with recognition of the benefits it could bring (Magee & Jeanes, 2013; Curran et al, 2016; Sofija et al, 2018; Dawes et al, 2019; Koch et al, 2020;). However, the complexities of homeless life often resulted in poor adherence to fitness programmes and times where there was no attendance to interventions (Sherry, 2010; Curran et al, 2016; Gregg & Beddard, 2016; Sofija et al, 2018). Curran et al (2016) identified three controlling challenges that homeless populations (or other hard-to-reach populations) confront when attempting to sustain a commitment to regular health behaviours and exercise; environmental, economic and social. Findings by Curran et al (2016) mirror previous research by Sherry (2010) into the HWC, where it was reported that the complex lives of participants hindered retention in the research. Sofija et al (2018) detail issues relating to participation, highlighting that all participants involved with the study had different medical histories and varying levels of physical and mental conditions. Participation was not always a priority for participants due to personal or family issues; those who did attend consistently voiced concerns about other participants' attrition, implying that those who were not attending were those who would benefit most (Sofija et al, 2018). A theme from Dawes et al's (2019) qualitative exploration into homeless women attending running groups was that body image was a barrier to attendance. Many participants felt self-conscious about their appearance and how they would be perceived when running; however, the women who overcame these anxieties spoke of the value and sense of achievement received from doing so (Dawes et al, 2019).

Sofija et al (2018) stress the importance of a professional trainer to the success of an intervention, suggesting that the ability of a trainer to establish rapport with participants is key to participation. The importance of participants feeling connected to staff

involved in interventions is also posited by Johnstone et al's (2016) research. Feeling connected to a service predicts positive group membership and therefore motivates participation (Johnson et al, 2016).

4.4 SUD, Homelessness and Exercise Outcomes

A total of 13 studies investigated the impacts that exercise interventions had on homeless drug abusers (Burling et al, 1992; Magee & Jeanes, 2013; Sherry & O'May, 2013; Helge et al , 2014; Curran et al, 2016; Gregg & Beddard, 2016; Dawes et al, 2019; Sofija et al, 2019; Malden et al, 2019; Grimes & Smirnova, 2020; Kemter et al, 2022; Bates et al 2023). The most extensive investigation is arguably Burling et al's (1992) research. The study assessed the impact of participation in a community-based softball team in conjunction with treatment for homeless veteran substance abusers. Findings show that engagement with the soft-ball team (exercise group) resulted in significantly higher levels of treatment duration, completion and abstinence rates, and housing attainment three months after discharge when compared to the non-soft-ball group (control group) (Burling et al, 1992). Sherry and O'May (2013) also found high levels of abstinence and engagement with drug rehabilitation services for those engaging with exercise interventions; however, it was a requirement of the exercise programme to be drug and alcohol-free. Participation in the exercise interventions appears to enhance drug-related outcomes by providing opportunities to practice coping skills that extend beyond the research (Burling et al, 1992; Sherry & O'May, 2013; Dawes et al, 2019; Malden et al, 2019; Kemter et al, 2022; Bates et al, 2023).

Malden et al (2019) investigated the promotion of health behaviours through exercise interventions and discovered that participants desired to reduce SUD and other harmful health behaviours to maximise the benefits of regular participation in exercise. Similarly, participants involved in Gregg and Beddard's (2015) study and Magee and Jeanes (2011) saw the avoidance of using drugs as key to being able to engage in positive health behaviours – including exercise. Exercise sessions/interventions offered a potential substitute for engaging in drug abuse. Of note, Sherry and O'May's (2013) study on the effects participation in the HWC has on homeless drug abusers revealed the potential for exercise to serve as a substitute for engagement with drugs and alcohol. Drug abuse was viewed as a social event in which exercise had now replaced and provided a distraction (Sherry & O'May, 2013). Bates et al (2023) quantitative research builds upon past qualitative studies which highlight the benefits of street soccer. In their research, 73 cross-sectional questionnaires were given to socially disadvantaged players of street soccer in Western Canada to examine the effects. Questions included measurements for social, mental, and physical health, including substance use (Bates et al, 2023). Findings indicated that 46% and 43% of participants reported improved physical and mental health respectively and reductions in SUD were reported, with reduced alcohol (45%), cannabis (42%), and other non-prescribed drug use highlighted (Bates et al, 2023). Furthermore, 88% of participants had an increased number of friends and other positive impacts were observed in improved housing and increased income (Bates et al, 2023). However, how street soccer influences these positive changes is unclear as the authors do not highlight specific mechanisms of change. Whilst not explicitly related to substance abuse, Dawes et al (2019) found engagement in a social exercise group reduced feelings of loneliness and facilitated the development of supportive friendship groups –

demonstrating the importance of building social capital through exercise in the reduction of drug misuse amongst homeless populations. This offers insight into the application of RC in describing the positive changes that PE has on homeless individuals.

4.5 Critical Literature Review Conclusion

Each distinct piece of literature in this chapter, whether focusing on SUD, homelessness, or a combination of the two, documents positive outcomes. Research on PE and homelessness is limited, especially compared to studies focused on participants with SUD. The literature becomes even scarcer when examining the impacts of PE on homeless participants with SUD.

PE seems to reduce drug consumption levels for those with SUD, and in situations where a reduction was not observed a significant improvement in psychological wellbeing was recorded. With the connection between SUD and mental health already established in 3.6.3, inferences can be made on the inverse relationship between enhancements to mental health and levels of SUD. Overall, PE appears to produce positive outcomes in physical, psychological and social realms for both SUD and homeless participants. However, what we have learnt from the findings of Trejo et al (2017) and Magee and Jeanes (2013) is to be cautious in using exercise interventions as sites for competition. Instead, the focus should be on personal development rather than attempting to be better or beat another person(s). The overall desire of participants to engage in PE is high across both SUD and homeless participants. The benefits of engaging with exercise are understood at a professional and service user level.

Combining all findings from SUD and homelessness research, the literature indicates substantial benefits. This justifies and highlights the need for further research investigating the impact of targeted exercise interventions on the homeless

Chapter 5: Theoretical Lens

The current chapter provides further detail on the theoretical lens that pertains to this research. The sociological imagination was introduced in 3.3 and in this chapter, it is applied to the field of homelessness in more depth, via Bourdieu's (1990) concepts of capital, habitus and field. This chapter fully describes the RRCM, building on the conversation provided in Chapter 2 where the philosophical context was laid out and basic definitions of key concepts were provided. Methods for measuring RC are considered, along with the practicalities involved (5.4).

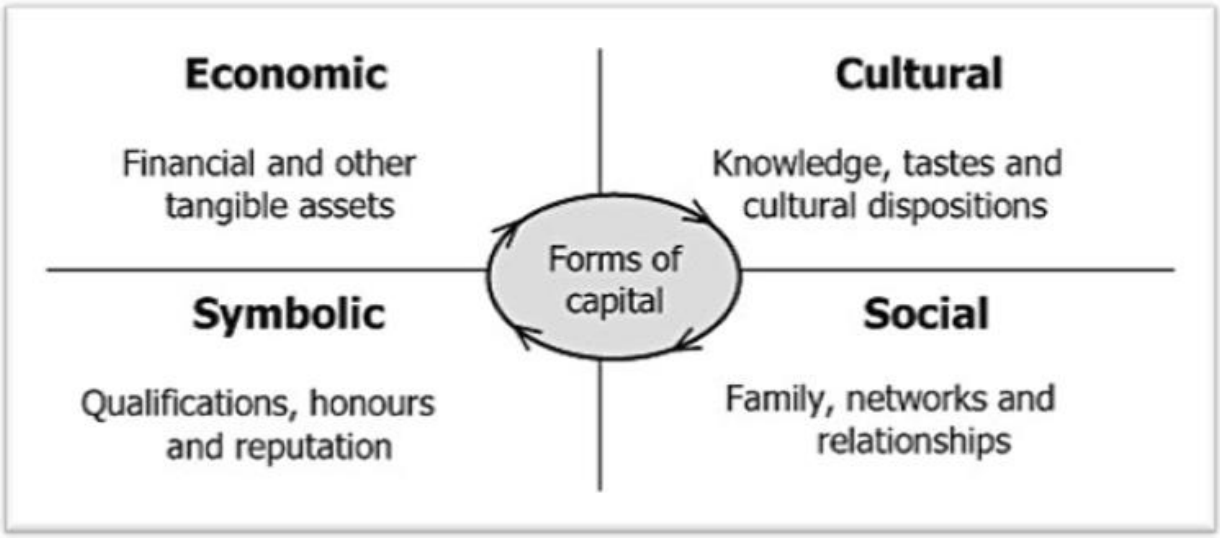
5.1 Bourdieu's Theory of Practice

Pierre Bourdieu aims to bridge the gap between objectivism and subjectivism in his writing (King, 2000). His theory of practice is an attempt to link the analysis of objective social relations with social agency through his concept of 'habitus' (Bourdieu, 1988; Layder, 2006). The habitus refers to the norms, values, and a person's inherent qualities acquired through education, family, and to some extent the environment and peer groups (Bourdieu, 1977; Thatcher et al, 2015). For Bourdieu, habitus transcends the subject-object duality by shaping individual actions with social meaning (King, 2000). However, the concept of habitus is one of Bourdieu's most contested ideas due to concerns that it removes choice from human experience (Archer, 2007). Critics argue that habitus may inadvertently relapse into the objectivism that Bourdieu sought to reject (King, 2000). But, for Bourdieu (1992), the habitus does not restrict choice; instead, it influences the range of choices and attitudes based on social structures. This leads him to define the habitus as a 'socialized subjectivity' (Bourdieu, 1992,

p.126). In simple terms, habitus is a set of learned behaviours, perceptions, and ways of thinking that guide how individuals respond to certain situations. These habits are developed through, and deeply ingrained in, individual experiences and the social environment.

Applied in previous chapters, the concept of capital is central to Bourdieu's work. Capital is a form of power, enabling individuals the ability to influence, change, or control their circumstances (Tomlinson, 2004). Traditionally, there are four forms of capital. Cultural, Social, Economic, and Symbolic (Figure 4).

Figure 4: *Traditional Four Forms of Capital*



Maclean et al, (2006: 29) Business Elites and Corporate Governance in France and the UK, Basingstoke, Palgrave Macmillan

Evolving from Bourdieu's theoretical hypothesis, which explains the unequal educational achievement of children from different social classes, cultural capital has three states: institutionalised (educational qualifications); objectified (cultural goods); and embodied (dispositions of the body and mind). All three states are interconnected

and influenced by social class (Bourdieu, 1986). It is the awareness and belonging to a social class group (Thatcher et al, 2015). Sharers of common cultural capital create a collective identity, forming a network and contributing to social capital. Central to social capital is a network of social contacts and group memberships, and how individuals and groups use these contacts to their advantage (Siisiainen, 2003; Thatcher, 2015). An individual's social capital depends on the size of their network and how effectively they can mobilise it (Bourdieu, 1986). Their efforts can potentially improve their social standing in different social contexts (Bourdieu, 1980). Another characteristic of social capital is based on mutual cognition and recognition, and this is how it achieves a symbolic character (Siisianen, 2003). Economic capital is access to financial resources (Layder, 2006). Symbolic capital overlaps with other forms of capital and refers to the honour, prestige, and recognition an individual receives. This can be used to exert power and influence within society (Bourdieu, 1986).

Bourdieu's theory of practice includes the concept of the "field of the possibles" (1984, p. 110), which refers to the social space an individual occupies and how it influences objective factors like experiences and life opportunities. The 'field' can be viewed as a dynamic and active site in which habitus and capital interact. In schematic form, this is expressed as [(habitus)(capital)] + field = practice (Bourdieu 1984, p. 101). The term that Bourdieu used in French for the field was 'le champ', meaning battlefield. As such the field should be appreciated as a place of competition and aggression, where groups or individuals use their habitus and capital to negotiate and/or manoeuvre themselves within a particular field (Thompson, 2008; Thatcher et al, 2015).

5.2 Bourdieu Applied

Bourgois and Schonberg (2009) apply Bourdieu's concepts to study homelessness, documenting the lives of dozens of homeless heroin injectors through a 10-year photo-ethnography. They aimed to explain issues related to drug abuse within fields characterised by poverty and deprivation and promote complex mechanisms of symbolic violence to address drug abuse, rather than simplify the issue to individual choice. Bourdieu's (2000) concept of symbolic violence explains how marginalised individuals may come to accept their unequal social status as natural and blame themselves for it. Through the power differentials between social groups, symbolic violence makes inequalities appear reasonable and these inequalities are reproduced, preconsciously, in the ontological categories shared within societies' social groups and classes (Bourgois & Schonberg, 2009). Bourgois and Schonberg (2009) argue that early childhood socialisation processes create profound dimensions of habitus, often reinforcing individuals' positions in the social world and limiting their ability to manoeuvre. Barker (2013), through ethnography, uses Bourdieu to argue that homeless youth in Australia are characterised by a 'negative' cultural capital of the embodied nature. Rather than a depletion of capital the homeless youth in this study are said to have little to no symbolic capital and therefore little social importance and reasons for living (Bourdieu, 2000). Therefore, to receive recognition, they invest in negative cultural capital to reinforce their position in the social world through seemingly self-destructive patterns of behaviour (Barker, 2013). Both Farrugia (2011) and Barker (2016) link this idea to a habitus of instability where homeless people come to expect certain conditions and recreate instability in their lives.

In their studies on the connections between homelessness and SUD, Kemp (2006) and Vangeest and Johnson (2002) touch on Bourdieu's concept of social capital. Both studies found that relationship breakdowns were a key factor for entering into homelessness, whilst strong social bonds added to an accumulation of social capital and served as a protective factor (Vangeest & Johnson, 2002; Kemp, 2006). Social capital is at the forefront of Ross-Houle and Porcelatto's (2021) research as findings evidenced its protective capabilities against homelessness. Ross-Houle and Porcelatto (2021) used RC to explore the relationship between adverse significant life events, homelessness, and alcohol consumption. They discovered that adverse life events related to health, social and structural factors were both a cause and effect of homelessness, with increased consumption of alcohol aggravated by a shortage of RC. Neale and Brown (2016) promote the importance of producing positive social networks among homeless individuals living within hostels with drug and alcohol issues to increase treatment initiation, reduce relapse and improve treatment outcomes. Disruptive, small, friendship networks are commonplace and a desire for culturally normative friendships was a key finding (Neale, 2016). However, improvements to social capital are often blocked due to pre-existent diminishment leading to distrust (Buys & Bow, 2002) and negative interactions (Stevenson, 2014). Yet, the literature underscores the importance of building social capital to produce positive outcomes in relation to homelessness.

The power of exercise in the accrual of capital assets has been researched, with few studies focusing on homelessness (Chapter 4). Sherry and O'May (2013) observed that sport initially facilitated social bonding within a limited network. Over time, it further developed social capital through "bridging" – establishing connections between individuals with similar backgrounds - and "linking" – forming relationships across

different demographic boundaries, such as ethnicity, age, or socioeconomic status (Portes, 1998). Similar outcomes were found in Sherry and Strybosch (2012) longitudinal study of a Street Soccer programme, with improved social inclusion and self-identity resulting in enhanced social capital. Sherry (2010) mirrors both Sherry and O'May (2013) and Sherry and Strybosch (2012) in their findings for broader social capital outcomes but are apprehensive to say that sport alone can account for the beneficial, social capital, outcomes. However, based on data acquired all respective studies conclude that sport can provide an effective vehicle for the accrual of social capital, which may have a positive impact on patterns of mental health and SUD amongst marginalised and at-risk communities (Sherry, 2010; Sherry & Strybosch, 2012; Sherry & O'May, 2013). Despite the potential of social capital accumulation as a positive force for recovery, there is sparse research, and that which does exist mainly focuses on football. This research aims to utilise a different sporting activity.

The literature shows how Bourdieu's theory can be applied to homelessness, but it is both limited and dated. This research seeks to expand on the current knowledge and provide and more up-to-date application of Bourdieu's theory of practice to homelessness.

5.3 Recovery Capital (RC)

RC was defined in Chapter 2. Alone, the term recovery is often used within the fields of addiction and mental health where the definitions differ. Within addiction, recovery is defined as "a voluntary maintained lifestyle characterised by sobriety personal health and citizenship" (Betty Ford Institute Consensus Panel, 2007). Whereas mental health recovery, refers to "the lived experience of people as they accept and overcome

the challenge of disability … they experience themselves as recovering a new sense of self and of purpose within and beyond the limits of the disability" (Deegan, 1988). Clear across both definitions is recovery as a lived experience of improved life quality and a sense of empowerment (Best & Laudet, 2010). The concept of recovery has transitioned, now incorporating active participation in community and global health (Betty Ford Institute Consensus Panel, 2007; Cano, et al., 2017). The newer definition of RC, the "resources and capacities that enable growth and human flourishing" (Best & Ivers, 2021), brings the term up to date with current conceptualisations. Using the concepts previously discussed, this section will provide a more detailed discussion of RC and the RRCM.

Granfield and Cloud (2001), through the application of Bourdieu's (1980) social capital to the addictions field, found that those with higher amounts of social capital required less intrusive forms of treatment. They developed social capital to include individuals' commitment and engagement to the community and willingness to participate in their values rather than just the immediate social network of family and friends (Best & Laudet, 2010). Further application of Bourdieu's theory to the field of addiction resulted in the development of RC, which Cloud and Grandfield (2009) viewed as having four components: social capital, physical capital, human capital, and cultural capital. The social and cultural capital components comply with Bourdieu's (1980) original conceptualisation described in (5.1), whilst physical and human capital differ (Table 3).

Table 3: *Summaries of the four components of Cloud and Granfield's (2009) RC model*

Social Capital	"defined as the sum of resources that each person has as a result of their relationships and includes both support from and obligations to groups to which they belong; thus, family membership provides supports but will also entail commitments and obligations to the other family members."
Physical Capital	"defined in terms of tangible assets such as property and money that may increase recovery options (e.g., being able to move away from existing friends/networks or to afford an expensive detox service)."
Human Capital	"skills, positive health, aspirations and hopes, and personal resources that will enable the individual to prosper. Traditionally, high educational attainment and high intelligence have been regarded as key aspects of human capital and will help with some of the problem solving that is required on a recovery journey."
Cultural Capital	"includes the values, beliefs and attitudes that link to social conformity and the ability to fit into dominant social behaviours."

Adapted from William Cloud & Robert Granfield (2009) Conceptualizing Recovery Capital: Expansion of a Theoretical Construct, Substance Use & Misuse, 43:12-13, 1971-1986

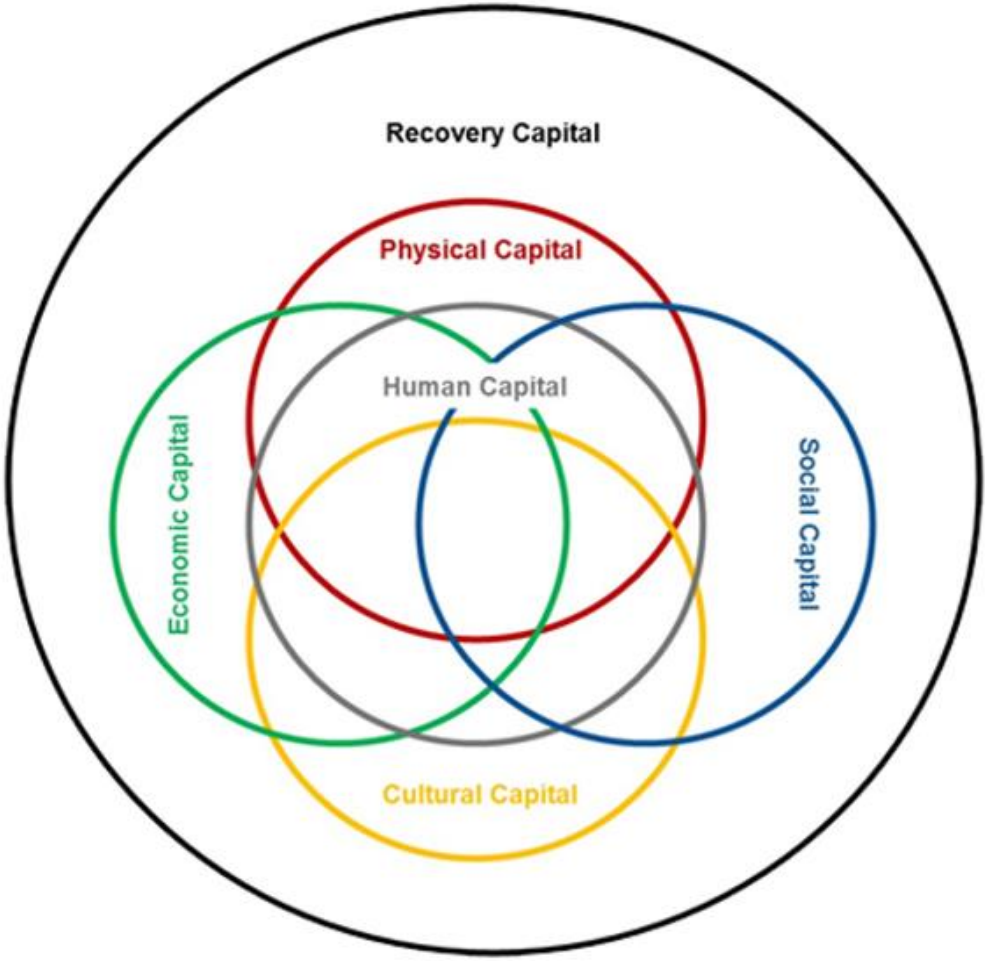
The concept of human capital derives from Coleman's (1988) research on high school dropouts and is believed to stem from social capital. It refers to a stable sense of self-identity, confidence in expressing opinions, and emotional intelligence, which helps young people become better learners and more successful in society (Gauntlett, 2011). Its connection to social capital is attributed to the significance of relationships, particularly within the family, in its development. Coleman (1988, p.10) noted that "if the human capital possessed by parents is not complemented by social capital embodied in family relations, it is irrelevant to the child's educational growth". Therefore, human capital can be seen as having a reflective nature.

Cloud & Granfield's (2009) definition of physical capital covers material assets that can be converted back to economic capital in Bourdieu's earlier concept. Fitzgerald's (2017) research into the power of PE as an adjunctive treatment alongside rehabilitation programmes for recovering addicts further develops the RC model using Shilling's (1991) definition of physical capital, referring to the social formation of bodies

through sport, leisure and other activities. Physical capital, in this context, is an embodiment of habitus. It suggests that how we treat our bodies reveals our innermost characteristics and reflects our position within different fields (Shilling, 1991). Fitzgerald's (2017) RRCM (Figure 5), the model which this research sets out to objectively measure, delegates the material assets of physical capital described by Cloud & Granfield (2009) back to economic capital and covers physicality separate from economics in a revised physical capital subcategory. This allows the potential benefits of exercise on recovery to be articulated.

The increased agency that command over capital facilitates is a key element of recovery (Cloud & Granfield, 2008; Best & Laudet, 2010; Fitzgerald, 2017). The RRCM stands out as it factors physicality into the equation in the form of a reimagined physical capital subcategory which, alongside the traditional economic, social, human and cultural capitals, accounts for RC. The RRCM has been empirically validated via ethnographic interviews (Fitzgerald, 2017) and the impact of participation in MBC's therapeutic yoga programme on mood state as indicative of RC has been gauged (Fitzgerald et al, 2020). However, RC itself has not been objectively measured within a PE, Mixed Martial Arts, setting. This research sets out to achieve this.

Figure 5: *The RRCM and definitions of subcategories*



Economic Capital = The tangible assets such as property or money that may increase recovery options

Social Capital = Command over social networks

Cultural Capital = Values, beliefs, and attitudes that link to social conformity and the ability to fit into dominant social behaviours

Human Capital = Skills, positive health, aspirations and hopes, and personal resources that enable the individual to prosper. Conceptual understanding of the techniques of recovery (Self-Belief)

Physical Capital = Command over the body and the bodies subsequent utility

Adapted from Fitzgerald, C. M. (2017). Capitalising upon the physical: exercise and addiction recovery (Doctoral dissertation, University of Sheffield).

5.4 Measuring RC

Multiple RC measurement tools exist (Bunaciu et al, 2023). Most have been validated and found to have acceptable psychometric properties, but there has been critique for the perceived limited alignment with RC theory and occasional substandard psychometric properties across diverse populations (Hennessy, 2017; Bowen et al, 2022). Of all RC questionnaires the Assessment of Recovery Capital (ARC) and the Brief Assessment of Recovery Capital (BARC-10) are the most used (Bunaciu et al, 2023). The ARC, formed by Groshkova et al (2013), is a 50-item measurement tool of RC that has been successfully applied, with moderate test-retest validity at one week and adequate concurrent validity. The ARC has 10 subscales, each of which is committed to one internal or external resource that supports recovery from SUD. They are Substance Use & Sobriety, Global Health (Psychological), Global Health (Physical), Citizenship/Community Involvement, Social Support, Meaningful Activities, Housing and Safety, Risk Taking, Coping and Life Functioning, and Recovery Experience (Groshkova et al, 2013). It is easily administered; however, it has been criticised for its applicability to recovery organisations and treatment settings due to the length of time it takes to complete all 50 items. Therefore, not accommodating busy workloads (Cano et al, 2017). To accommodate, Vilsaint et al (2017) developed the BARC-10 which is a shorter 10-item assessment of RC, formed from the previous 50-item ARC. The 10 items on the BARC-10 represent one item from each domain of the ARC (The OMNI Institute, 2022). Respondents rate each question on a scale from 1 to 6, where 1 signifies “strongly disagree” and 6 signifies “strongly agree”. Higher scores on the BARC-10 reflect higher levels of RC. Whilst the domains align with the ARC, there is tweaking to their names. They are Deprioritising Substances, Life Satisfaction, Energy Level, Community Belonging, Life Functioning, Fulfilling

Activities, Supportive Housing, Personal Responsibility, Recovery Progress, and Social Support (The OMNI Institute, 2022). The BARC-10 has been validated in SUD research where it demonstrated great concurrent validity as well as high internal consistency (Kelly et al, 2018). It has also been successfully applied in the field of gambling disorders (Gavriel-Fried, 2018). Regarding psychometric testing, both the ARC and BARC-10 were identified to amount to a single dimension or factor of RC (Arndt et al, 2017; Vilsaint et al, 2017; Basu et al, 2019; Sion et al, 2022). Furthermore, high internal validity scores for each of the ten subdomains of the ARC were found in the BARC-10 (Arndt et al, 2017; Vilsaint et al, 2017; Basu et al, 2019; Sion et al, 2022). Concurrent validity was also good for both (Vilsaint et al, 2017; Basu et al, 2019) Yet, whilst both tools have been applied successfully within research, Cano et al (2017) argue that they do not account for the community RC domain which Best and Laudet (2010) recognised as fundamental to understanding long-term recovery pathways. The REC-CAP, designed by Best et al (2016), is a more holistic measurement of RC which includes community measurement; but it is an exhaustive 10-page measurement tool that fails, like the ARC, for not accommodating busy treatment settings.

In summary, despite issues with certain psychometrics, the ARC and BARC-10 are generally valid and reliable measurements of RC. The BARC-10 takes less time to complete and has been validated outside of SUD research. Therefore, it was a suitable method for objectively measuring RC in this study.

5.5 Chapter Summary

This chapter has provided a detailed background to the RRCM introduced in 2.1. Bourdieu's theory of practice (5.1), which underpins RC, has been outlined and its homelessness application discussed (5.2). The literature highlights the applicability of Bourdieu's theory to homelessness and the positive outcomes achieved when applied within a PE context. Research shows that the homeless make capital gains when participating in exercise interventions; however, this evidence is sparse and dated.

The RRCM is a development from the original RC model that allows the benefits of PE on RC to be articulated due to a reimagined physical capital subcategory bringing physicality into the equation. The BARC-10 was identified as the most suitable measurement tool for RC due to its practical benefits and successful use within SUD research and its limited, but effective, application outside of it. Therefore, this research contributes to the small body of work that has used the BARC-10 outside of SUD.

By using the RRCM, which looks to immerse those who have had their habitus formed in fields of chaos within a field of possibility and growth (Fitzgerald, 2017), this research makes an original contribution to knowledge by evaluating capital gains through MMA.

Chapter 6: Methodology

Exploring developments in RC and changes in habitus, along with the subjective experiences that underpin it, requires ethnographic insight. This type of insight is uncommon in homelessness research but has been achieved by researchers like Bourgois and Schonberg (2009) and Barker (2013). Their findings, outlined in 5.2, demonstrate insights not achievable through purely positivist and short-term qualitative research. This research aims to achieve a similar depth through using an applied ethnographic approach.

The following chapter outlines the intervention (6.1) and discusses ethnography (6.2). It is followed by a description and justification for my pragmatic approach (6.3). In 6.4, I outline my sampling approach. The Methods of Data Collection (6.5) is separated into a discussion on Observations (6.5.1), Interviews (6.5.2), and the BARC-10 (6.5.3). The process of analysing qualitative (6.6.1) and quantitative data (6.6.2) is described, with a final section, Ethical Considerations (6.7), exploring the possible risks and benefits of participation in the research.

6.1 The Intervention

The MMA classes began on 3rd October 2021. Shelter's[7] service users were the initial participants in the research. Before MMA classes started, MBC offered Shelter 10 weeks of Peer-Led Circuit (PLC) classes. This was due to COVID-19. MBC was cleared to run PLCs during lockdown but did not have the clearance to run MMA. The

[7] A registered charity in England and Scotland that campaigns for housing justice and supports people with housing needs

decision to set up the PLCs specifically for the participants of this study was part of an organisational drive by MBC to provide exercise and social interaction for those in greatest need during a critical period. PLCs are delivered by highly qualified practitioners and Exercise Peers (EP). EPs are former service users who have been supported through further education to gain instructor qualifications. The plan was that as the PLCs ended, MMA classes would begin. The gym where PLCs took place was directly below the MMA gym.

I participated in the PLCs, and this marked the first phase of my familiarisation to 'the field'. This is crucial in ensuring immersion and helps the researcher gain the emic perspective (see 6.2) (Barley, 2011; Barley & Bath, 2013). Familiarising with the research context and 'entering the field' is considered the starting point in ethnography and is a defining characteristic of ethnographic enquiry (Leedy & Ormrod, 2009). Starting familiarisation before official fieldwork is not a widely practised tactic; however, Barley and Bath (2013) highlight its advantages. It benefits the researchers and allows participants to become familiar with the researcher and the study. Early interactions enable participants to make an informed decision on whether they want to take part in the research (Barley & Bath, 2013). During PLCs, I focused on building relationships with prospective participants and staff (gatekeepers). Shelter's offices were known to participants and the gym was hard to find. I arranged to meet them at the offices and walk together to the gym. I continued to offer to meet participants somewhere familiar before the class and walk with them to the gym throughout the study. These walks allowed for introductions and insights into participants' stories before entering the gym. We discussed their fitness anxieties, and I set expectations for the class. I would emphasise not pushing too hard and taking breaks when needed, ensuring they worked within their limits. Learning about participants' exercise history would uncover

any injuries. Understanding their exercise history, fitness levels, injuries, or disabilities helped me inform the coach of any necessary adjustments (see 11.2). Simply interacting with participants outside of the exercise setting resulted in a more effective intervention.

The average attendance to PLCs was between 5-7 people. In line with MBC's practices, a free three-month membership was on offer to any service user who attended 10 classes. Two service users completed 10 consecutive circuit classes and received the membership. Attending 10 MMA classes also provided participants with a free three-month gym membership.

MMA classes took place at 4pm each Wednesday and lasted approximately one hour. They were held at Sheffield Shootfighters (SS), the longest-running MMA club in Sheffield. Classes were conducted by two qualified MMA instructors, Liam and Chris, although Chris left the role after the first few months (see 11.2). Classes involved a variety of MMA training, including striking, BJJ, and wrestling (2.2). All equipment, including gloves, was provided. In line with MBCs principles (2.1) and the aims of this research (Chapter 1), classes were tailored and adaptable. They began with a warm-up, which included a jog around the mats while Liam called out various instructions, such as high knees and touching the ground. Sprints were later introduced as participants became fitter. Participants were then guided through a stretching routine. The main body of the class was then split between striking, BJJ, and wrestling. Some classes were purely striking or BJJ, but for the most part, they were a combination. At the end of the class, participants completed a cooldown. MBC's MMA classes differed from those at SS, which are open to paying members of the public. Our classes were smaller and less aggressive. They were also less physically intense and encouraged recovery time. I operated both as a participant and in a support role, assisting the

coach (see 11.2 and 11.3). If participants were not comfortable taking part in certain aspects of the class, they were offered an alternative. For example, if they did not wish to do BJJ they could use the punch bag.

Researchers enter the field with their assumptions of the world and their understanding of other perspectives will be filtered through their unique attitudes and feelings (Hammersley, 2012; Barbour, 2013). Therefore, an outline of my position is necessary for external readers to make an informed decision regarding its potential impact on the analysis and interpretations of data (Barbour, 2014). Sport and exercise have always been part of my life. I have been involved in team sports like football and cricket since a young age. I started training in the gym at 16 and attended night school to obtain a Level 2 Fitness Instructor qualification while studying my A-Levels. It has been a field of growth and facilitated the development of friendships throughout my life. Combat sports have always interested me, yet something that I never truly engaged with until beginning this project. Some Judo in secondary school is not sufficient exposure to say I had trained in martial arts. During the planning stages for this research, I started training at SS. I began with one session a week at a beginners' striking class. Occasionally, I would stay for the following GI[8] BJJ class. I treated the training as a supplement to weightlifting which had been my main form of exercise since the age of 16. Having no prior MMA experience, I was placed in a similar position to many participants who attended the MMA programme. In 10.1, I recollect my first MMA experience. Four years on, I now train three to four times a week at SS. It is something that I love. MMA training has replaced weightlifting as my main sport/training method, with weight training now a supplement to MMA. Whilst my focus of training MMA is on

[8] In Brazilian Jiu Jitsu, "GI", refers to the traditional uniform worn by practitioners. The Gi consists of a jacket, pants, and a belt.

skill acquisition and developing fitness, as I improve, I find a competitive itch which may need scratching.

My previous working experience must also be taken into consideration. I have held several jobs since completing my undergraduate degree in 2017, including sales and working as a labourer on a building site while finishing this thesis. However, it is my role as a support worker within a housing association which is relevant to the research. I left that job to begin this PhD, and it serves as the main motivator for the focus of this study and is key to my ability to deliver it effectively. I supported a caseload of homeless individuals with multiple and complex needs. Key to the role was to provide holistic support, collaborate with organisations such as probation and NHS health and social care, effectively deliver support plans, and work with homeless people on a ground level daily. Whilst I could never know the hardships of experiencing homelessness, as I have never been homeless myself, the relationships built, and conversations had with the people I supported allowed me to gain a real-life working understanding of the challenges they face. It is through this job that I developed the skills to build rapport with participants in this research. My experience of listening and talking to homeless individuals and responding to their disclosures has proved useful as participants have disclosed personal, and often traumatic, experiences in their lives (Chapter 8). In these moments, I have been able to act with compassion rather than surprise. When developing support plans for the homeless individuals who came under my care, promoting engagement with exercise was something I consistently did. Local councils would advertise opportunities for service users to exercise, but their efforts were often unsuccessful as the chaotic lives participants led needed more than a leaflet to engage them. Therefore, when the opportunity presented to work with MBC

and add a new group and activity to their existing repertoire, I was motivated to target the homeless.

6.2 Ethnographic Approaches

Ethnography is the “art and science of describing a group or culture” (Fetterman, 1989, p.11). The ethnographer participates “overtly or covertly, in people’s daily lives for an extended period of time, watching what happens, listening to what is said, and/or asking questions through informal and formal interviews, collecting documents and artefacts – gathering whatever data are available to throw light on the issues that are the emerging focus of inquiry” (Hammersley & Atkinson, 2007, p.3). Observation is a key component of longitudinal ethnographic fieldwork. Ethnography though, by its very nature, involves multiple methods of data collection which can be both qualitative and quantitative (Le Compte & Schensul, 2010). Its success is based on the ability for social action in one world to be understood by those outside the cultural context (Agar, 1986). Ethnographers strive to gain understanding via the emic perspective: the insider’s view, or what Ong (1993) calls “getting under the skin of participants”, and the etic perspective: “the external, social scientific perspective on reality” (Fetterman, 1989, p.32). In other words, the outsider’s view. Due to the recognition and acceptance of multiple realities, the emic perspective does not always conform to an objective reality. However, the ‘insider’s’ view it provides is crucial to accurately describing and understanding situations and behaviours. By capturing both the emic and etic perspectives, the ethnographic researcher can produce what Geertz (1973) describes as ‘Thick Description’. Researchers can consequently comprehend why people act in

different ways and understand the actions of social groups, not just describe physical behaviours (Fetterman, 1989).

LeCompte and Schensul (2010: 12) outline seven characteristics of ethnography:

"The seven characteristics that mark a study as ethnographic are as follows:

- *It is carried out in a natural setting, not in a laboratory.*
- *It involves intimate, face-to-face interaction with participants.*
- *It presents an accurate reflection of participant perspectives and behaviours.*
- *It uses inductive, interactive, and recursive data collection and analytic strategies to build local cultural theories.*
- *It uses multiple data sources, including both quantitative and qualitative data.*
- *It frames all human behaviour and belief within a sociopolitical and historical context.*
- *It uses the concept of culture as a lens through which to interpret results."*

Emerging from the discipline of Anthropology, traditional ethnographic research was characterised by long-term fieldwork processes. In the early 20th century, researchers commonly immersed themselves in a community or culture for extended periods, typically ranging from one to three years (Wolcott, 1999). Traditional ethnographies used an 'immersion approach', relying heavily on participant observations across settings and annual cycles of activity to understand aspects of community life in the studied population (LeCompte & Schenshul, 2010). However, quantitative data collection has long been a part of ethnographic research. Malinowski's (2013) ethnographic research, originally published in 1922, on Trobriand Islanders, included quantitative data collection on trade, social structures, and economic activities. Furthermore, Mead's (1943) study into Samoan life, whilst primarily qualitative,

included quantitative data on family size and age of marriage. This is also evident in contemporary research, with Gutiérrez and Lamarque's (2020) ethnography on the effects and social implications of participating in agroecological consumption groups using qualitative (semi-structured interviews, open-ended interviews, and participant observations) and quantitative techniques (closed-response questions). Ethnography has adapted to allow applied, or practising, researchers to achieve the method's core objectives under restricted timeframes by using it as an overarching framework (Wolcott, 1999; Lucas & Jeanes, 2020; Bevan et al, 2024). The methodology that an ethnographic approach provides facilitates the capturing of everyday interactions and experiences and has been effectively used in a sporting/exercise context (Bevan et al, 2024).

Ethnographic studies have evolved to focus on specific aspects of culture, requiring new research tools and methodologies to adapt to shorter fieldwork periods and the more targeted nature of the research (LeCompte & Schenshul, 2010). Pelto (1970) and Pelto and Pelto (1978) proposed a ‘new science of ethnography’ to acknowledge the constraints of traditional ethnographies. They introduced approaches and tools from psychology, psychiatry, and sociology, such as elicitation techniques, narrative interviews, quantification, and photography to improve ethnographic research (Pelto & Pelto, 1978). As a result, there has been an increase in applied researchers using ethnographic techniques to investigate real-world problems (Pelto, 2016). Applied ethnography advocates mixed methods and seeks to use the descriptive information gathered to be effective in programmatic interventions rather than develop new theoretical frameworks (Pelto, 2016). A key component is the application of the research at the end of the project. This relates to one of the aims of this study, which

was to implement tailored sustainable MMA classes (Chapter 1), and the actionable insights/recommendations made in Chapter 12.

Hammersley (1993) in his book, *What's Wrong with Ethnography?,* raises concerns about applied ethnography, doubting the practical relevance of any ethnographic research that attempts to contribute to political activity or improve professional practice. However, Banfield (2004: 57) criticises Hammersley in his article *What's Really Wrong with Ethnography?,* writing "Hammersley balks at the possibility that research could, or should, be overtly political or, presumably, committed to social values like egalitarianism.". Banfield (2004) rejects Hammersley's claims and argues that ethnography can enact social change through adopting a critical realist position. A position closely aligned to my theoretical lens (3.3). My view is that research should provide accurate information on topics of public concern and serve a wider purpose. Whilst I have strived to retain some of the core values of traditional ethnography, such as immersing myself from the word go in the world I am studying, this research predominantly fits into the mould of an applied ethnography, as ethnographic techniques were applied to a real-world problem (homelessness) and practical solutions offered (Chapter 12).

6.3 Pragmatism

It is important to consider the philosophical approach to research to ensure that there is no contradiction between the three elements: ontology, epistemology, and methodology (Rashid et al, 2016). A qualitative or quantitative approach shapes the three elements; however, the establishment of mixed methods research as a third methodological movement challenges this (Teddlie & Tashakkori, 2009). Mixed

methods refer to “research in which the investigator collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study” (Tashakkori & Cresswell, 2007, p. 4). Accompanying the development of mixed methods has been the search for an appropriate paradigm to legitimise its use, like what is accepted as justification for the use of qualitative and quantitative research separately (Hall, 2013). This paradigm problem stems from the 1970s to 1980s ‘paradigm wars’ - attacks on quantitative research by qualitative advocates (Reichhardt & Rallis, 1994). This left researchers searching for a rationale to combine qualitative and quantitative data. Guba and Lincoln (1994) argued that mixed methods are not feasible because of incompatible paradigms, highlighting the need for a new paradigm to be created. I find this new paradigm in pragmatism, accommodating for both qualitative and quantitative research under a single framework.

Bergman (2008) suggested abandoning the assumptions of paradigms that underpin qualitative and quantitative research, arguing that they unnecessarily limit their application. Pragmatism aligns with applied ethnography (6.2) as it is geared towards solving real-world practical problems (Feilzer, 2010) rather than making assumptions about the nature of knowledge (Hall, 2013). Pragmatism, as a research paradigm, does this by encouraging researchers to use approaches - methodological and/or philosophical – that best suit the investigation (Tashakkori & Teddlie, 1998). The approach does not see research methods as dichotomous (Johnson & Onwuegbuzie, 2004) and is associated with mixed methods (Maxcy, 2003). It focuses on the research questions and consequences rather than methodology (Kaushik & Walsh, 2019) and views laws and theories as “principles which guide our actions, rather than literal descriptions of the world” (Jary & Jary, 2000, p.482). Pragmatism aligns with my

applied ethnographic approach as this research attempts to add useful knowledge in a specific location – homelessness. It is underpinned by the epistemology that knowledge is based on social experiences which shape perceptions of the world (Kaushik & Walsh, 2019). However, the top-down approach of ontological assumptions is rejected (Morgan, 2007). This results in research questions not being created to fit ontological assumptions, typical of research that conforms to the metaphysical paradigm, which can be detrimental to the quality of the research data. Section 3.2.2 discussed the divergent research traditions in the UK, USA and Australia and the influence that they have on homelessness research and resulting restrictions. The objective of pragmatism and mixed methodology is to draw on the strengths of contrasting research cultures, developed from the polarisation of qualitative and quantitative research strategies, and minimise their weaknesses (Johnson & Onwuegbuzie, 2004).

Pragmatic approaches to research rely on abductive reasoning, moving to and from induction and deduction by first converting observations into theories and assessing the theories through action (Morgan, 2007). In purely qualitative research, an issue occurs as abductively derived claims require support from inductive and deductively sourced evidence to hold (Lipscomb, 2012). However, through mixed methods support is available. My observations and data collected through interviews were thematically analysed. This data was then converged with the themes highlighted in the literature review and triangulated with quantitative measurements of RC through the BARC-10 via abductive reasoning (see 6.6)

6.4 Sampling

There was a total of 20 participants in the study. Section 3.1 outlined the definitions of homelessness and 3.4 highlighted factors that can cause homelessness. The homeless population is not homogenous; therefore, a perfect definition of what makes an individual homeless is difficult. I take a similar view to that of Magee and Jeanes (2013) who simplify homelessness by recognising that there is no absolute definition. Instead, they “view homelessness as a continuum that views a homeless person as holding a multitude of often shifting positions from complete rooflessness and living on the streets, to living in shelters and supported accommodation or temporarily accommodated by family and friends” (Magee & Jeanes, 2013: 5). Participants in this study were recruited from various services who either supported individuals defined as homeless (3.1), or individuals experiencing one or more risk factors that can result in homelessness (3.4). When conducting observations and interviews, participants were rarely asked whether they had experienced homelessness in their lives. Such an abrupt, intrusive, question would not be fitting with the ethnographic nature of the research. However, through conversation and acquiring a story of participants' lives, experiences of homelessness were found. When these experiences were disclosed, further enquiry was made.

Research began during the COVID-19 pandemic and ran through different restrictions. It felt ‘normal’ to consider COVID-19 measures throughout the research. However, it would be naïve to think it did not impact the study. MBC’s programmes were adapted and allowed to remain running during England’s second lockdown (31/10/2020-02/12/2020) and the restrictions that followed due to the essential therapeutic nature of their work. Data collection could also be adapted to accommodate social distancing

if required, helping to mitigate risk. Yet, other stakeholders had policies in place which proved limiting. For example, Shelter's policies limited the amount of contact they had with their service users. This meant that I was unable to meet potential participants and promote the classes to them. Instead, I had to rely on Shelter to relay the information I provided to them to their service users. This had a significant impact on participation at the start of the research.

MMA attendance for the initial months was between two and four individuals. Initially, classes were exclusively for Shelter service users. Despite multiple meetings with Shelter to increase participation, the struggle persisted. Participant attrition is common across SUD and homelessness research (Curran et al, 2016; Sofija et al, 2018), and I entered the study with high attrition rates in mind. The gym membership (6.1) served as part of the contingency management for the research. The collaborative effort with Shelter did not yield the desired number of participants. After consulting with all stakeholders, we decided to extend the invitation to other homeless services (referral agencies) in the local area. Each of these services experienced similar barriers due to COVID-19 as Shelter; yet, it was assumed that inviting more services to the intervention would increase participation (see 11.1 for further discussion).

A purposive sampling technique was used. All participants were aged over 18, with a maximum age limit of 64 to follow exercise guidelines (WHO, 2020). Referral agencies agreed to collaborate with MBC for the research and provided participants wanting to exercise. As an additional measure, I would help participants complete a PAR-Q form (Appendix 9) to manage the physical risk associated with PE. If the PAR-Q suggested that a participant should consult their GP before engaging in exercise, these consultations were set up.

Participants were invited to join a WhatsApp group chat to stay informed about classes and to have a safe space for communication outside of the class. They were required to sign a consent form (Appendix 3) if they wished to join and were informed that the chat content might be used in the research.

Participants who attended MMA were under no obligation to take part in data collection. I adopted a similar approach to that of Magee and Jeanes (2013) in their research into the HWC, in that I spent a large amount of time reiterating that the research was secondary to their involvement in the classes. I began to request volunteers for participation in the research once ethical approval was gained. Once gained (see 6.7), data collection commenced.

6.5 Methods of Data Collection

This section outlines the study's three methods of data collection. The qualitative data consists of participant observations (6.5.1) and interviews (6.5.2). The BARC-10, introduced and critically evaluated in section 5.4, was the measurement tool applied to collect quantitative data (6.5.3).

6.5.1 Observations

In some instances, participant observation is used as an umbrella term to cover everything that the ethnographic researcher does; however, I find it best to distinguish my observations (experiencing) and interviews (enquiring) to emphasise their independent values.

Participant observation is one of the primary methods of data collection in ethnography, focusing on information that directly addresses the study's research questions (Creswell, 2018; Lucas & Jeanes, 2020). Within an applied setting, observations are often non-continuous but spread out over a prolonged period (Fetterman, 1989). Observations in this research took place during, before, and after exercise classes and included informal conversation during these times that were transferred into field notes at the earliest opportunity. My technique was to record my observations via voice recorder, which were then transcribed into fieldnotes, or to write down observations manually as soon as possible. The patterns of behaviour observed acted as a secondary layer to interviews.

The value of participant observation is determined by collecting data from experiences and events that occur in a natural environment producing unselfconsciously performed behaviour (Wolcott, 1999). My active participation in the exercise classes (6.1) distanced me from the stereotypical 'scientific' observer and served to create a natural exercise environment. Even if participants were to act in recognition of knowing they were being observed, it would be difficult to sustain this without letting their guards down and falling into familiar patterns of behaviour (Wolcott, 1999). I was able to 'fit into' the research environment due to my familiarity (6.1), meaning I was already an insider in many respects and knowledgeable of the customs and language of a gym environment (Fetterman, 1989). Important then was my ability to restrict my involvement and remind the participants of my presence as a researcher to limit any potential complaints of being misled by my involvement. This is paradoxical when considering the desire for a natural environment but was required. I repeatedly explained the purpose of observations throughout the research and ensured a

professional distance was maintained that allowed suitable observations and documentation of data (Crang & Cook, 2007).

6.5.2 Interviews

Interviews in this study complement the field notes from observations and provide deeper context or confirmation of what the ethnographer sees and experiences (Wolcott, 1999; Lucas & Jeanes, 2020; Bevan et al, 2024). Interviews were conducted by arranging a date, time, and location to sit down with a participant and record our conversations. A total of 17 interviews occurred with participants. Recordings and full transcripts from the interviews are available on request.

My interview technique was structureless and therefore ethnographic (Westby, 1990). This means that the interviews in this study are best thought of as a series of formal friendly conversations where I entered each one with a loose list of topics to facilitate discussion. There was a purpose to these interviews; therefore, at times I needed to be able to direct the conversation into channels of discovery by taking a slightly authoritarian approach (Spradley, 1979). However, interviews were mostly participant-led, and conversations were always left to roam. Interviews were transparent to participants, mainly due to the briefing beforehand (see 6.7).

Successful ethnographic interviewing involves two distinct but complementary processes - developing rapport and eliciting information. Conversation becomes more intimate as the relational distance decreases. Westby (1990) in her paper *Ethnographic Interviewing: Asking the Right Questions to the Right People in the Right Ways* draws on Stewart and Cash's (1988) ethnographic interview model that

suggests interactions occur on three levels. These three levels are highlighted in Table 4.

Table 4: *Levels of Communication*

Level of Communication	Relationship	Frequency	Question Type
Level 1	Distant	High	Safe and non-threatening
Level 2	Moderate	Moderate	Intimate but low threat. Deals with thought, feelings and beliefs about behaviours
Level 3	Close	Low	Highly intimate. May include information that is not directly related to interview questions

Information consolidated from Stewart and Cash (1998) and Westby (1990)

Rapport and positive relationships that the researcher has with participants decide the level of conversation and the emic validity, which is crucial to the success of an ethnography due to its ability to elicit unmediated disclosure (Fetterman, 1989; Westby, 1990; Johnson et al, 1995). How I achieved rapport with participants before inviting them to be interviewed can be found in 6.1, with the development of relationships occurring as part of my familiarisation. Rapport can be further developed by a limited degree of self-disclosure (Sloan, 2010), which is when the researcher intentionally makes verbal revelations of their life outside of work (Zur et al, 2009). It is assumed that sharing experiences between interviewer and participants creates understanding relationships and cultivates an environment where each party feels at ease to disclose difficult/traumatic experiences (Daly, 1992; Sloan, 2010). When

necessary, I was able to draw on my experiences of the classes and starting MMA as well as my personal and professional experiences relating to homelessness, drug use and PE. Within the interview context, Spradley (1979) suggests three principles that facilitate the development of rapport: restating what interviewees say; making repeated explanations for the interview; and asking for use rather than meaning – this research followed all three principles. To elicit information, several techniques were used. Questions were worded reflexively, enquiring further into certain responses, and the flexibility allowed me to elicit data from the participants on their terms whilst maintaining a conversational flow (Bryman, 2016). Key to these interviews is the emancipation of participants to discuss what they felt was important rather than the topic being completely dictated by the researcher (Westby, 1990). Descriptive questions take “advantage of the power of language to construe settings” (Frake 1964, p.1964) and were often used throughout interviews. These types of questions encouraged participants to talk about a particular event or cultural scene (Spradley, 1979). I would frequently expand on descriptive questions to achieve a more detailed answer from participants. This is a technique gained from Spradley (1979) and gave participants time to think and give more detail in their responses.

6.5.3 BARC-10

The BARC-10 was administered to participants at the earliest opportunity once consent was gained. Usually after their second or third session. Multiple A4 copies were taken to the gym and can be found in Appendix 6. The BARC-10 opened by restating the rationale of the study and aided informed consent (see 6.7). It was administered at the end of a session and participants would complete and return it

immediately. My presence allowed participants to ask for help if needed. The gym had a seating area where the BARC-10 could be completed privately. Following the initial collection, it was then administered periodically at my discretion with a register being kept. This is due to participant attrition (6.4). Managing it this way rather than in a structured bi-monthly fashion allowed me to avoid collecting data from participants who had potentially not attended any sessions since the last time they completed a BARC-10, with the impacts of exercise classes therefore not visible. A high internal consistency (a = .90) with no variants across participants gender and geographic locality has already been found through empirical validation of the BARC-10 (Vilsaint et al, 2017). As covered in 5.4, the 10 items on the BARC-10 represent one item from each domain of the ARC and gives an overall score of 6-60. Higher scores reflect higher levels of RC (The OMNI Institute, 2022). The domains associated questions, and suggestive relationship to the RRCM can be found in Table 5.

***Table 5**: The BARC Domains, Associated Questions, and Their Relationship with the RRCM*

BARC-10 Doman	Question	Suggestive Relationship with RRCM
Deprioritising Substances	*"There are more important things to me in life than using substances"*	Human Capital
Fulfilling Activities	*"I regard my life as challenging without the need for using drugs or alcohol"*	
Personal Responsibility	*"I take full responsibility for my actions"*	
Social Support	*"I get lots of support from friends"*	Social Capital
Life Functioning	*"I am happy dealing with a range of professional people"*	
Community Belonging	*"I am proud of the community I live in and feel part of it"*	Cultural and Social Capital
Supportive Housing	*"My living space has helped to drive my recovery journey"*	Economic Capital
Energy Level	*"I have enough energy to complete the tasks I set for myself"*	Physical Capital
Life Satisfaction	*"In general, I am happy with my life"*	Overall Recovery Capital
Recovery Progress	*"I am making good progress on my recovery journey"*	

The associations that the BARC-10 has with the RRCM are suggestive (see 12.4 for a critical reflection on this). For example, the 'Social Support' domain is suggestive of social capital. Where a domain from the BARC-10 is suggestive of a subcategory of the RRCM, it is highlighted in Table 5 and stated during analysis in Part 2. The BARC-10 was not developed with Shilling's (1991) definition of physical capital in mind (5.3). Whilst the 'Energy Level' domain is suggestive of physical capital, it is an insufficient measurement to solely rely on considering the research is a PE intervention. Therefore, to be fully conducive to the RRCM, a physical capital measurement item was added. To measure developments in physical fitness, self-perceived fitness (SPF) assessments were conducted. The development of SPF measurements in research has grown from the desire to establish alternative measurements of fitness that are non-invasive and simple (Lamb, 1992). Positive correlations between self-perceived and objective measures of fitness have been found (Marsh & Redmayne, 1994; Lamb & Hayworth, 1998; Hoseini et al, 2012). The SPF question in this research was developed from Lamb's (1992) research. It was included on the same sheet as the BARC-10 and asked, 'How would you describe your fitness compared to other people of your age?'. Respondents rated the question on a scale from 1 to 5, where 1 signifies "Very Poor" and 5 signifies "Excellent". Due to the adaptation of the BARC-10 to include an SPF question that objectively measures physical capital, I will no longer be referring to it as the BARC-10. Henceforth, the 'adapted BARC-10' will simply be referred to as the BARC. A total number of 110 BARCs were completed across all participants. A chart demonstrating the number of BARCs each participant completed can be found in Appendix 7.

6.6 Data Analysis Technique

Qualitative and quantitative analysis corresponded with Le Compte and Schensul's (2013) three-stage analytic process which is characteristic of ethnography and my abductive relationship with the data, facilitating openness and mitigating risks. The three stages of analysis were: analysis completed in the field whilst I was still actively collecting data; analysis away from the field soon after the data collection was complete; and analysis once fieldwork was completed and I had spent time away from the research. By keeping a diary, I was able to reflect on my previous experiences. The process of recursive analysis involved bringing together different types of data, which enabled me to review the original structures and identify new lines of enquiry to pursue in future data collection, all while still completing the fieldwork (Le Compte & Schensul, 2013). The final stage accommodates a form of reflexivity where I was able to gain perspective on my experiences and approach the analysis from a fresher, more distanced, angle (LeCompte & Preissle, 1993; Wengraf, 2004).

6.6.1 Qualitative Technique

Notes from observations and transcripts from interviews were thematically analysed to identify key themes of interest. Thematic analysis is “a method for identifying, analysing, and interpreting patterns of meaning (themes) within qualitative data… " (Clarke and Braun, 2016: 297). It was chosen due to its flexibility and the research centring on personal experiences which can be uncovered through thematic analysis. Once transcriptions were completed, a structured approach to handle the large amount of unstructured data was required. Transcriptions were analysed to identify codes which are small units of analysis that demonstrate interesting findings in the

data that are potentially relevant to the research aims. These codes provided the foundations for themes - larger patterns of meaning that provide a framework for presenting the data. The emerging themes were then converged with data from observations and themes from the literature review to produce a logical whole (Onwuegbuzie & Leech, 2006). Simply, I read through each interview transcript and field note and coded them in NVivo (a software package for qualitative data analysis) dependent on the themes that emerged. Should a new piece of data be coded that produced a new theme, I read through all transcripts again to check if any data applied.

6.6.2 Quantaitve Technique

Data from the BARC and register was manually entered into the Statistical Package for the Social Sciences (SPSS) software. The register was used to indicate the number of sessions a participant had attended when they completed the BARC. Response frequencies, descriptives, and cross-tabulations were initially used to explore the data. Frequencies and descriptives provided an overall picture and cross-tabulations allowed exploration of patterns and trends. Participants were eliminated from analysis through select cases so that individual participant's data could be analysed. Multiple new variables were then created to represent the mean BARC scores for each domain and total mean BARC scores at the initial and last time point of completion for each participant. These scores were then subject to a comparison of means via a paired sample T-Test to determine statistical significance and the mean change over time, standardised into Cohen's D effect size statistics. Value was given to both numbers and stories to quantify the impact of the programme, but also to share the voices of participants. Themes from the interviews were triangulated with BARC findings and abductive reasoning was applied to produce coherent findings of high internal

consistency (Onwuegbuzie & Leech, 2006). The findings were then discussed by relevance to the literature with an emphasis placed upon upholding the emic validity through the preservation of the voice of participants as a source of credible knowledge.

6.7 Ethical Considerations

Ethical approval for the research was gained on 15th September 2021 (Appendix 5). This section contains key discussions pertinent to the ethical questions of the research as well as the standard considerations of participants' rights and anonymity.

A key ethical question surrounding all research with people is whether there are any possible negative consequences of participation and how they will be limited. Most negative impacts that could result from participation in the MMA classes were mitigated by safeguarding precautions inside the gym and ensuring participant suitability for training (6.1). MBC's MMA classes were approved by Sport England's Safeguarding Code in Martial Arts (see 11.3). In addition, the coaching staff at MBC are qualified, insured, and consummate professionals with experience working with marginalised groups and facilitating tailored exercise classes. This limited any further negative consequences involved in exercise participation. In contrast, the potential for participants to benefit from the research must be considered. Positive outcomes are complementary to engagement with exercise (3.7) and research suggests that exercise results in the accumulation of RC (Chapter 5). Therefore, there was scope for participants to benefit from the study.

Interviews carry risks and can be intense experiences, especially if they relate to sensitive topics. Due to the multiple and complex needs that accompany

homelessness, there was a possibility of participants touching on stressful topics during interviews, potentially triggering emotional trauma. These moments required skills gained from my previous work experience (6.1). Dynamic assessments, gauging the research impact on participants were constantly conducted. Participants were told in the Participant Information Sheet (Appendix 1), and reminded during the interview, that they did not need to answer certain questions and were free to end the interview at any time. To mitigate the risk of disclosing information that they later regret, participants had two weeks from the date of the interview to contact the researcher to ask for data to be redacted or the interview destroyed. All participants were debriefed at the end of each interview and given a debrief document (Appendix 4). Interview participation may have proved to be a therapeutic exercise. The ethnographic approaches taken and the desire to collect data from the emic perspective allowed participants to tell a story from their reality and have their voices heard. Liamputtong (2007: 20-21) states:

". . responsible researchers, it is our duty to undertake some research on sensitive topics with the vulnerable . . . to find ways to bring the voices of these vulnerable people to the fore . . . because this will be our first step in empowering them."

MBC's mission is to empower marginalised communities (2.1) and the marginalisation that homeless individuals face in society impacts their voice being heard. The interview context in this research emancipated individuals from society and empowered them to be heard.

To ensure informed consent, prospective participants were given an information sheet outlining various details about the project. If the individual was not literate, I would talk through the consent with them. Alongside this, they were also provided with a consent

form (Appendix 2) which they signed and returned if they wished to take part. The consent form asked a series of questions that must be answered. Questions included: Confirmation of reading the Information Sheet; recognition that they have had their questions answered and that they are free to ask further questions; understanding that they are free to withdraw without reason and consequence at any time; consent to take part in the study. Participants then had to sign the form and return it to the researcher who also signed it. Participants right to withdraw was outlined in the Participant Information Sheet. They were then required to confirm on the consent form that they understood the right to withdrawal procedure. Before each interview, a briefing meeting ensured that participants were aware of their rights concerning the research. Throughout the project, I repeatedly explained the purpose of the research and explained why observations and interviews were being made and surveys distributed. Due to the frequency of surveys being distributed, participants were constantly reminded of the research. Whenever I requested participation in interviews, I restated the research specifics and supplied them with a participant information sheet on each occasion. The purpose was also restated immediately before data gathering. In addition, I proactively checked in with participants throughout the research to ensure they still wanted to take part in case they did not feel comfortable actively voicing any reservations they had.

6.8 Methodology Conclusion

This chapter began with an overview of MBC's MMA classes (6.1). The methodological framework that underpins the research was then outlined, with the study adopting an applied ethnographic approach that uses mixed methods (6.2). There are two main justifications for adopting this approach. Firstly, it captures both the emic and etic

perspectives, providing not only literal descriptions of events, actions, and behaviours but also their context, meanings, and interpretation (Geertz, 1973). This results in an immersive and nuanced understanding of the research context, yielding insights that are both rich and actionable. Secondly, a key component of applied ethnography is its practical application, making it effective in informing programmatic interventions. This relates directly to Aim 1 of this research (Chapter 1) and aligns with my belief that research should provide accurate information on topics of public concern and serve a wider purpose.

Data collection consisted of participants' observations, interviews, and the BARC survey (6.5). Observational data informed the interviews, providing deeper context or confirmation of recorded events. The BARC provided quantitative data that complimented the qualitative data, with its domains associated with the RRCM framework. An additional SPF question was added to measure physical capital. Findings were triangulated and abductive reasoning was applied, enhancing the reliability and validity of results by cross-verifying from multiple sources.

The complexities of the research, especially working with vulnerable participants, were thoroughly addressed. Research of this nature inevitably comes with tricky ethical dilemmas to navigate (6.7). MBC’s expertise and my own professional experience were leaned on to mitigate risk and ensure the research upheld high ethical standards.

The methodological approach described in this chapter establishes a strong basis for Part 2 of the thesis, which comprises analysis and discussion. Part 2 of this study examines the data obtained from the ethnographic investigation and interprets results within the context of the wider theoretical and empirical literature laid out in

Part 1. The analysis will highlight key insights derived from the study and make an original contribution to knowledge in the field.

Part 2

Part 2 of this thesis is a tale of two halves: a tale of capital depletion through chaos and a tale of capital accumulation through recovery. This part consists of an analysis where I apply the theoretical lens, outlined in Chapter 5, to the data gathered.

There are three layers of data presented through analysis. The first is observations, which are separated from the main body of text and placed in italics. The second is transcriptions from interviews. This data is indented, and the speakers' names are highlighted in bold. Where I quote in the main body of text, speech marks and italics are used and the speaker is referred to prior. Ellipsis (…) has been used to abridge and sometimes remove long sentences which have no structure, or clear meaning, and repetitive speech. Whilst in real conversation this dialogue did not distract me, on paper it may be distracting to readers. This practice is utilised by other ethnographic researchers, such as Contreras (2012), and improves accessibility. Only recorded conversations are indented, highlighting precise (or close to it) speech. This allows the reader to know which recorded dialogue is accurate and which is based on observations and relies on memory.

In 2.1, I provided working definitions of the capitals that comprise the RRCM. Chapter 5 traced the origins of the RRCM back to Bourdieu's theory and evaluated their utility. The following chapters discuss participants' capital alongside their experiences. A visual representation of the capitals and their description can be found in Figure 5. Social theory is only as good as its explanatory power. The RC lens, and the RRCM, have been used due to their applicability and high explanatory power. To give context to the reader, people who are ensnared in the chaos of homelessness typically have little to no money (economic capital), display unsociable behaviours (low cultural

capital), are socially isolated from family and friends or often experience familial loss (social capital), have problematic coping mechanisms, for example, drug addiction (human capital), and have poor physical health (physical capital). I apply the concepts in this fashion.

Chapter 7: The Story Tellers

Before presenting my research data, I provide detailed accounts of four 'Key Participants' (7.1). Additionally, 16 shorter profiles of other participants are included in Appendix 8. The BARC data, which accompanies observations and interviews in the following chapters, is introduced and analysed (7.2). Introducing the key participants now provides context for the characters featured in the analysis chapters that follow. I present an account of our first interaction using my observations, and a summary of their MMA journey.

Key participants were selected based on specific criteria. Firstly, they attended a significant number of MMA classes, providing a richer dataset through prolonged interaction. This allows for a more detailed and nuanced understanding of their experiences and the impact of the MMA intervention. Secondly, they were recognised by peers for their support and noteworthy developments. Finally, they advocated for the MMA classes and demonstrated leadership.

Whilst every participant's story in this research holds importance, it is not feasible within the constraints of this thesis to provide a comprehensive description of each. The focus on these four key participants enables a deep dive into the most engaged and influential voices within the intervention. However, it is important to acknowledge that this focus may result in the loss of certain perspectives, particularly those of participants with lower engagement or those who faced challenges in fully participating. Their experiences, which could offer valuable insights into barriers or differing outcomes, are not as prominently featured. Despite this, I strive to include as many voices as possible through the shorter profiles (Appendix 8) and throughout the

analysis chapters, ensuring that, to some extent, the full range of participants' experiences is considered.

7.1 Key Participants

7.1.1 Stacey

Age: 50s
Gender: Female
Classes Attended: 53

Eva: *"Stacey. Oh, Stacey she's so inspiring, and she's amazing, and I've spoken to her a lot as well. You know, about things that have happened in the past and that, and she just gets it. And she just like (.) she really encourages me to continue fighting physically, and she just reassures me that it's ok and I've got every single right … to do it."*

Stacey started the MMA sessions a year after they began. I first met her at a referral agency, where I had gone to meet participants to walk with them to the MMA gym (6.1). She was a shy figure at first.

A staff member entered the waiting room and told me in a hushed tone "There's a woman who's come down today who's extremely nervous". I wasn't surprised by this; most participants are nervous for their first class, but I assured her that I would keep an eye out. The staff then left to go and get the new participants. When she returned, she did so with three individuals Jason, Eva, and Stacey. I was never told specifically who the nervous person was but it wasn't difficult to see it was Stacey. Identifiable through her demeanour, eyes to the ground and

stiff as a board. She was at the back of the group and didn't make a sound when we did introductions. A small woman wearing a leather jacket, it was hard to see her face as her long, wavey maroon-coloured hair was concealing it. Due to the time, we left quickly after introductions and began our journey to the MMA gym.

At first, me and Jason led the group, whilst Stacey didn't leave Eva's side. Conscious of wanting us to be a group, I manipulated things and rearranged us by dropping back and attempting to engage Stacey and Eva in my and Jason's conversation. Eva was responsive, but Stacey never attempted to join in. I tried again, asking everyone about their previous MMA and exercise experiences. Jason and Eva shared theirs and Stacey gave me a short response, "I've never done MMA before and I ain't done any exercise since my dog died". There was an opportunity here for conversation. "Sorry to hear, when did your dog die?" I asked, recognising it could be risky to pry but also confident that it would start a dialogue between us. My gut was right, and Stacey began to allow me access to her story whilst Eva and Jason now took the lead towards the gym. She told me how it had been 6 months since Dougie had passed away. He was her "baby" and her walking partner, but since his death she had barely left the house. I could tell through her slow, melancholy tone that she was still hurting about the loss of her dog. However, she seemed comfortable enough to talk about it and reminisce. As we continued towards the gym I returned this disclosure, sharing my own experience of losing my cat. I told her about how hard I had found the experience. "Are you much of a cat person?" I asked Stacey. She answered, "I love them but I aint ever had one, I've always just had dogs" and I noticed life entering her speech. Life then continued to grow as we shared stories of pets and the nuisances they can be. We again became a group with Eva and Jason

joining my and Stacey's conversation, sharing their pet stories. Now, Stacey wasn't silent. She was laughing and joining the conversation. We remained locked in this topic until we arrived outside the gym where the others were already waiting for us under the shelter outside. We made quite the gang when we all joined up and I introduced everyone. I didn't see any reason to not continue the discussion we were just having, knowing that many of the others have pets. "We've just been talking about how much we love pets!", I announced to the group. This was an easy segway for the new guys to start engaging with the rest of the group. Finley told us about his cats, showing pictures of them on his phone. As a group, everyone inputted as we waited for Liam to arrive. Stacey was engaging with others, her eyes no longer fixed upon the ground. Instead, she was meeting the eyes of her new peers. It wasn't long before Liam rounded the corner and opened the gym.

In between our conversations about pets, Stacey told me that she was asthmatic. I advised her to take it easy and to stop and use her inhaler when needed. Considering she was nervous, Stacey got involved with everything the class had to offer, particularly the BJJ. I partnered her up with Erica, as I had seen the two of them talking before the class started. As the session progressed, I observed Stacey blossom. When the timer buzzed to signify a break in rounds, I watched her interact with the others. I could see her laughing and smiling and integrating with the group. Stacey's personality then started to come through more as she joked with me and Liam during BJJ. "She'll be running the class next week" Liam joked, as Stacey executed a move perfectly. Stacey grinned and continued

getting to work on putting an Americana [9]on Erica from Side Control[10]. As the class finished, I noticed a complete contrast from the person earlier. Her head was held high, and she was speaking with confidence to other participants about her first MMA experience. She was leading conversations saying how much she was looking forward to coming back next week.

From that moment, Stacey hardly missed a class. Her relationship with me, Liam, and the other participants flourished as she became a core component of what made the MMA classes a success. Stacey's PTSD (see 8.4) meant that public transport was triggering for her at first. A month into attending the classes, I learned that Stacey lived near me. To avoid her having to take the bus home alone in the dark during winter, I offered her lifts. A lot of these journeys were filled with arbitrary conversation, but sometimes she told me stories and experiences personal to her. Through these journeys, I gained a greater insight into her life. From a woman who never left the house, she quickly grew into a social butterfly building powerful relationships with other participants and becoming a leader within the group. She organised social activities outside of the MMA session. She immersed herself within referral agencies during her recovery, becoming a volunteer, and finally gaining paid employment for which I gladly provided a reference. She was an advocate for the classes, coming with me to groups held at referral agencies to share her experiences (see 11.1). Wherever she went, whatever group she attended at any service, she would bang the drum about MMA.

[9] Arm lock submission in which an opponent's arm is pinned to the mat, bent at the elbow, palm facing upward, hyperextending the shoulder (ESPN, 2023).

[10] Dominant grappling position in which a fighter lies perpendicular to a face-up opponent, controlling the torso without the opponent having any control with the legs (ESPN, 2023)

MMA was only the start of her fitness journey, and she went on to engage with other MBC classes.

7.1.2 Craig

Age: 50s
Gender: Male
Classes Attended: 47

Finley: *"… when we're doing combos and stuff … I say to Craig, you know, like one more, one more you've got this amount of time left, come on, sort of thing. And … with transport and stuff, it makes it a lot easier, but also … he said if I ever want to go to the gym, because I have quite a big fear about going to the gym on my own, he was like … we can go together … and I found that really useful"*

Craig is the longest-serving MMA participant having attended the PLCs (6.1) and the first MMA class. My first in-depth interaction with him happened at the end of a PLC.

> *Staggering around the gym recovering and trying to gather myself after being put through my paces, I passed Craig. Craig is a short man with a stocky build. He had come last week but was distant from the rest of the group. I'd seen that he had been more involved with the other participants today, but I hadn't had an opportunity to speak to him. As I unsteadily walked towards him, exhaustion painted over my face, Craig watched me and laughed, amused by my theatrics. "It made me feel proper ill last week" he said, with a smile. "Init mate", I replied. Craig continued to talk at me "You know, even though it's hard I'm glad I come. I*

almost didn't come but I thought it's good to get out the house and socialise now we ain't grounded", referencing the pandemic. The more I recovered the more I was able to engage in conversation with Craig. It turned out that once he got going there was no stopping him. He found getting to the class today a challenge, saying he had to "go to war" with himself to get out of the house. "I would've just ended up on my games all day", he admitted, going on to say that he had spent lockdown in social isolation. Craig disclosed that he had autism, and this gave context to why he had appeared distant from the rest of the group. I was interested to learn what sort of games Craig played, finding out he loved Grand Theft Auto – also one of my favourites. Craig was an enthusiastic cyclist. However, he'd now been off the road for some time but wanted to get back to it. My dad was a cyclist and some of this had rubbed off on me, so more common ground between us was established. He described in detail the different routes he'd done in the past, covering miles on end and visiting a range of places. We were so engrossed in conversation that we didn't notice everyone else tidying up the gym. I was shocked that nobody had barged in and ordered us to help. Seems like we got away with it.

From the start, Craig was frequently at the classes, even when participation was low. Sometimes he was the only participant. He would express his desire for more people to come and benefit the same way he was. As he worked with us and recovered, he became increasingly motivated to help others experiencing homelessness, using his own experiences as a catalyst to encourage change. Craig was involved in a homeless charity campaign that was heard in parliament. He also organised sleepouts to raise awareness for rough sleepers, convincing other participants from the classes to join him. Like Stacey, I have taken Craig to group talks with me to referral agencies and

he has shared his experiences of the classes. Him doing this has been effective in getting more participants. Being the only participant with access to a car, 'Craigs Taxi Club' (see 10.3) helped others with transport to and from the classes. Eventually, Craig signed up for the public classes at SS, the first participant to do so. This was a massive achievement.

7.1.3 Finley

Age: 20s
Gender: Male
Classes Attended: 51

Erica: *"… when its happened, it happened a few weeks ago and … Finley came and sat out with me and … other people there got it, and Finley instantly saw and instantly realised what happened"*

Finley identifies as a male. When he started the MMA classes, he was in the process of medically transitioning from female to male. His first session came when the MMA classes had been running for over a month and we met outside the gym.

> *The radio in my car was interrupted by a phone call. Recognising the number as Mary's from Shelter, I answered. After the opening formalities of "hello" and "how are you", Mary got into the reason for her call. She told me that there should be a new person coming to the class called Finley and that there was additional information I needed to know for safeguarding. Finley was currently in the early stages of transitioning gender. Mary explained that he had expressed concerns about being misgendered in the class and this had been a barrier to attendance.*

She thought it best I knew so I could mitigate any risk. I assured her that I would be vigilant about it and expressed my confidence that it wouldn't be an issue.

Outside the gym, I was met by four participants. They were chatting away when I joined them. I noticed someone standing further down the road, behind the group. They were wearing a yellow coat, smoking a cig, and looking down at their phone, but every so often quickly glanced up and looked over at us. I approached them and asked if they were here for the MMA class. Finley looked up from his phone and replied "Yeah, I am". I introduced myself and brought Finley over to the rest of the group. He introduced himself and the others welcomed him. If Finley was nervous, it didn't show. Straight away he was talking to the rest of the group, telling them how he was unsure whether to come over and ask them whether they were waiting for the MMA class. "Instead, I decided to be anti-social and stand on my phone looking like a recluse" he joked, adding "To be honest I wasn't even sure if I was at the right place". This then triggered a discussion about how the gym is hidden and how everyone struggles to find it the first time. We continued talking as a group as we waited. Liam soon arrived, walking towards us with his hood up. Luckily for us, we know he is a nice guy, but you wouldn't blame someone for being intimidated by this short beefy man walking towards you. "Here he is" I called out, turning to Finely and saying "That's Liam the coach" indicating that he was a friend, not a foe. As we followed Liam down the alleyway that leads to the gym door, I managed to get Finley one-on-one, away from the earshot of the rest of the group, and give him a rundown of the class and what he could expect. We then got to the door, and I let Finley go before me, starting his first assent up the wooden steps into the MMA gym.

Finley would go on to recall to me in interviews how he was anxious for that first class (see 10.1). He was never misgendered and it was never an issue. I was confident it would not be. Being misgendered quickly stopped being a concern (see 10.1). Unfortunately, Finley has had to stop participating in the classes for prolonged periods due to undergoing various surgeries. Despite these months when he would not be at the gym, he remained part of the community, continuing to engage with the other participants in the group chat. Each operation provided a setback, but he remained resilient, and he always returned. We were at a similar age, and he loved cats, which meant we would spend a lot of our time talking about them. We also shared a similar taste in music. As his life stabilised, Finley started working and he would spend his money going to gigs and festivals, many of the same ones that I would go to. I owe thanks to Finley for introducing me to The Snuts, a band I have since seen live multiple times. Some participants would moan over the music that I put on the sound system for the classes, but I could always rely on the support of Finley. He was a confessed social person; however, he just needed to overcome the social anxiety that he had when he first met people. His sociability was shown in the relationships that he had with the other participants, especially Craig (see 10.3). Huge for Finley was improving his physicality, and within those first few weeks of meeting him I was constantly telling him about the other opportunities that MBC had available. Eventually, he started to engage with them, and he became a consistent presence throughout MBC.

7.1.4 Oscar

Age: 40s
Gender: Male
Classes Attended: 40

Frank: *"Oscar and Stacey as well, they're an inspiration to me, mate*

During a talk I delivered at a referral agency to attract new participants (see 11.1), Oscar was present. He seemed more interested in the SS logo than the MMA classes themselves, as it reminded him of the Street Fighter video game series. I was then surprised to meet Oscar again the following week outside the MMA gym while I was talking to another participant.

As Mike continued to tell me that Everton was doomed for relegation this season, a recognisable face rounded the corner in the distance and walked towards us. Not sure how I knew this tall, slender figure, I continued my conversation with Mike, but as they headed right at us, I made eye contact. I'm reasonably tall, standing at 6"1, but with this man now towering over me I felt quite small. "Is this the right place for the MMA class?", they asked. Memories flooded back to me, and I now remembered why he was recognisable. It was Oscar and he had been at a talk I delivered to a group the previous week. During the talk, Oscar had more interest in the SS logo than the MMA class, saying it reminded him of Street Fighter, declaring "Street Fighter was my first addiction". A bit of me had felt like he was mocking the classes with some of his comments. Oscar and Mike already knew each other from Cocaine Anonymous (CA) groups, so there was no need for introductions. He explained that he had gone to the wrong gym which was a few minutes round the corner. He didn't think to use the flyer that he had until he had gone to the wrong place. Luckily, he had managed to keep hold of it and used the directions provided on the back to find his way. "I did want to come last week but I put it off and I nearly did it again today, but I decided that I was going to come and just try it," said Owen. Mark then shared that he did the same. A

story I had become familiar with. When I told them that it looked like it would just be the two of them, a picture of relief came over their faces. I had already gone through the classes with Mike, but for Oscar's sake, I did it again. I could assume through my first meeting with Oscar that he had no previous MMA experience, yet he was quick to tell me again. "I do a lot of running" he said, adding, "so I think I'm quite fit, but we'll see won't we". As we entered the gym, Oscar said "I'm just grateful that things like this are available for people like me". This left me to think, as I followed him up the gym stairs, that I may have misunderstood Oscar.

I could never have predicted that the man I thought had initially mocked the idea of MMA would become a key participant. After a few weeks of coming to the classes, I asked Oscar to be a participant. Straight away he was inquisitive about the research, fascinated by it. We have spent hours after classes in deep conversations due to shared interests. Oscar shared my interest in addiction and drug policy, and we would often recommend books or podcasts to each other, sparking lively discussions. It was not just Oscar's similar interests that made interactions with him captivating. He would tell fascinating stories about his life, many of them chaotic. There was never a dull conversation. At the start, his lack of organisation was a challenge – he frequently arrived late, showed up at the wrong times, or simply forgot. To his credit, he worked on this, and eventually, I did not need to text him every Wednesday morning to remind him. There would be times when we did not see Oscar for a few weeks and concern would ripple through the group. In these moments I would message him, asking how he was and leaving a gentle reminder of the class's date and time. He would never respond, but eventually, Oscar would return. It was in these times that his relationships with other participants was evident as they told him they missed him and that the classes were not the same without him. I also felt the same.

7.2 BARC Insights

In the upcoming chapters, analysis of BARC data will feature alongside observations and interviews to showcase the impact of MMA classes on RC. Eighteen participants completed a BARC assessment at least twice. Details on the BARC and how it was administered can be found in 6.5.3, while the analysis technique is explained in 6.6.2. Table 6 displays the average of participants' BARC scores for each domain at the initial and last time points of completion, along with the standard deviation, significance (p-value), and effect size (Cohen's D).

***Table 6**: Paired Sample T-Test scores for individual BARC domains from initial and last time points of completion and Cohen's D effect size.*

BARC Question	Mean	Std Deviation	Significance	Effect Size (Cohen's D)
Q1 - There are more important things to me in life than using substances. *(Deprioritising Substances)*	5.16 **5.77**	.84	.007	-0.77 *(medium to large effect size)*
Q2 - In general I am happy with my life. *(Life Satisfaction)*	3.27 **4.83**	1.19	.000	-1.5 *(large effect size)*
Q3 - I have enough energy to complete the tasks I set for myself. *(Energy Level)*	3.44 **4.83**	1.28	.000	-1.24 *(large effect size)*
Q4 - I am proud of the community I live in and feel a part of it *(Community Belonging)*	3.44 **4.5**	1.39	.005	-0.78 *(medium to large effect size)*
Q5 - I get lots of support from my friends. *(Social Support)*	3.70 **4.47**	.83	.002	-0.54 *(medium effect size)*
Q6 - I regard my life as challenging without the need for using drugs and alcohol. *(Fulfilling Activities)*	4 **5.27**	1.36	.001	-1.24 *(large effect size)*
Q7 - My living space has helped to drive my recovery journey. *(Supportive Housing)*	3.83 **4.5**	1.18	.029	-0.43 *(small to medium effect size)*
Q8 - I take full responsibility for my actions. *(Personal Responsibility)*	5 **5.61**	1.14	.037	-0.57 *(medium effect size)*
Q9 - I am happy dealing with a range of professional people. *(Life Functioning)*	4.27 **5.22**	1.05	.001	-0.81 *(large effect size)*
Q10 - I am making good progress on my recovery journey. *(Recovery Progress)*	4.44 **5.16**	.89	.003	-0.66 *(medium to large effect size)*

Comparison of all participants' initial and last scores for each BARC domain, with paired sample T-test scores indicating statistical significance for each domain. Cohen's D effect size statistics indicate:

- Large effect size in Life Satisfaction, Energy Level, Fulfilling Activities, and Life Functioning
- Medium to large effect size in Deprioritising Substances, Community Belonging, and Recovery Progress
- Medium effect size in Social Support and Personal Responsibility
- Small to medium effect size in Supportive Housing

Mean score from initial BARC
Mean score from last BARC

All domains show a significant increase ($p < 0.05$) from the initial time point of completion to the last. This indicates that, on average, there was an increase in the availability of internal or external resources in each of the areas captured by the BARC. The largest effect sizes (Cohen's $D > 0.8$) were seen in Life Satisfaction, Energy Functioning, Community Belonging, Fulfilling Activities, and Life Functioning. The average of participants' responses to the SPF question on the BARC at the initial and the last timepoint of completion can be seen in Table 7, along with the standard deviation, significance (p-value), and effect size (Cohen's D).

Table 7: *Paired Sample T-Test scores to BARC SPF question from initial and last time point of completion and Cohen's D effect size*

Question	Mean	Std Deviation	Significance	Effect Size (Cohen's D)
How would you describe your fitness compared to other people of your age?	2.27 **3.44**	.84	.001	-1.14 *(large effect size)*
Mean score from first BARC				
Mean score from last BARC				

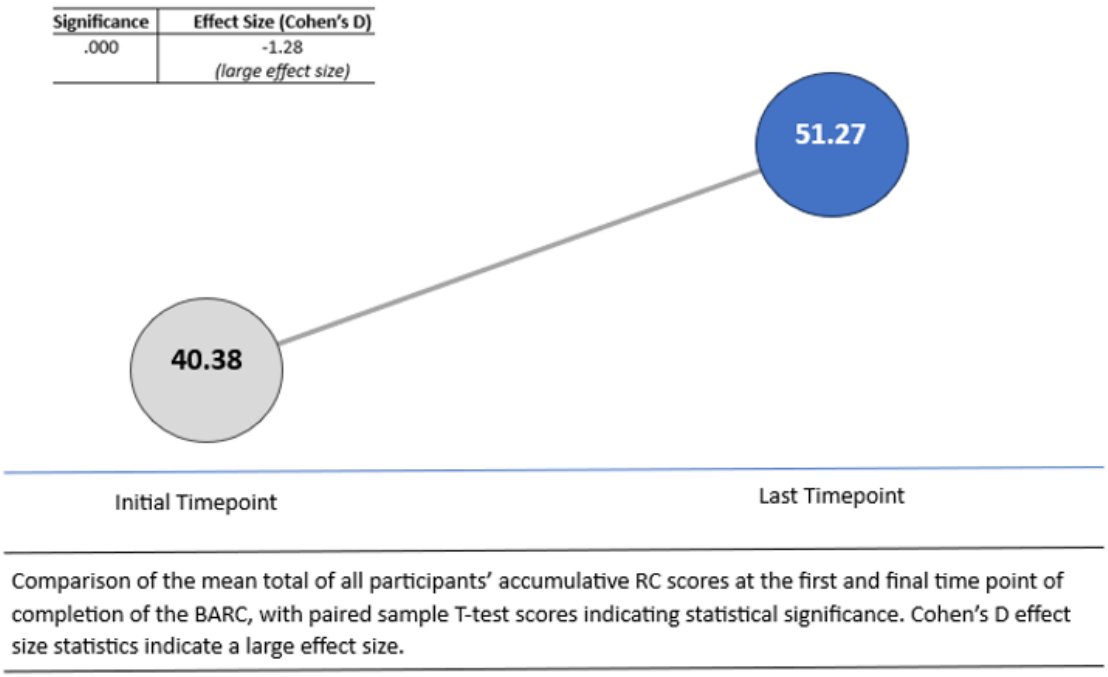
Comparison of the mean total of all participants' responses to the SPF question on the BARC at the initial and last time point of completion, with paired sample T-test scores indicating statistical significance. Cohen's D effect size statistics indicate a large effect size.

This indicates an increase in physical capital. The effect size can be categorised as large (Cohen's $D > 0.8$). These findings, accompanied by the qualitative data that follows, suggest that the MMA intervention had a significant positive impact on participants' RC across multiple domains and RRCM subcategories (see Table 5).

Adding together the scores from the 10 individual domains in the BARC, you get an accumulative score ranging from 6-60 that represents RC (6.5.3). The higher the value the higher RC. Following the same process of the individual BARC items (Tables 6 and 7), overall, RC scores were subject to a comparison of means via a paired sample

T-Test to determine statistical significance and the mean change over time, standardized into Cohen's D effect size statistics. This is demonstrated in Figure 5.

Figure 5: *Representation of participants' mean total RC scores from initial and last time point of completion of BARC and summary of Paired Sample T-Test and Cohen's D effect size*



Comparison of the mean total of all participants' accumulative RC scores at the first and final time point of completion of the BARC, with paired sample T-test scores indicating statistical significance. Cohen's D effect size statistics indicate a large effect size.

The average RC score at the initial completion was 40.36 and 51.27 at the last completion. This indicates a 10.91-point difference. RC scores showed a significant increase ($p < 0.01$) and a large effect size (Cohen's $D > 0.8$). This indicates that, on average, there was an overall increase in participants' RC through involvement with the MMA intervention.

7.3 Chapter Conclusion

In this chapter, some of the unique individuals who were part of this study were introduced along with the BARC data. The chapter highlights the development of RC through the MMA intervention, setting the stage for deeper exploration in the subsequent chapters. The following three chapters incorporate observations, interviews, and BARC data. Chapters are themed: “The Field of Chaos” (Chapter 8), “Accessing New Fields” (Chapter 9), and “The Field of Combat: The Power of MMA” (Chapter 10).

Chapter 8: The Field of Chaos

Craig: *"…like a trip of the switch, and within seconds … you can begin that spiral staircase without even realising it, just a couple of steps away from being on the streets."*

It was crucial to understand participants' lives before beginning the MMA intervention to achieve the study's aims outlined in Chapter 1 and interpret the impact of the classes. This insight was gained as part of my applied ethnographic approach (6.2) and building rapport with participants. These stories belonged to the third level of conversation (Table 4), discussed in 6.5.2, and involved intimate details that participants would not disclose without immense trust. Themes included in this chapter cover experiences of homelessness, trauma, violence, addiction, family life, suicide, and mental and physical health. Each stage of participants' stories is defined into fields, the site in which social action can be observed and where capital and habitus interact (Bourdieu, 1984; Bourdieu & Wacquant, 1992). This aligns with the Bourdieusian lens that runs through the study (5.1).

8.1 The Inception of Chaos: Youth Trauma and Capital Depletion

Frank: *"…violence that young. You know, for violence to become that normal to a kid mate … I think back now, and it makes me want to cry … for the child that I was."*

Since the original 1998 study, Adverse Childhood Experiences (ACEs), described in 3.4.3, have become increasingly prominent in explaining poor health outcomes (Boullier & Blair, 2018) and complex forms of homelessness (Fitzpatrick et al, 2013). As a reminder, these are potentially traumatic events that can have detrimental effects on health, well-being, an individual's capital stocks, and consequently their habitus. These experiences are often cumulative, meaning successive traumatic experiences tend to follow the initial event, which then leads to further complications covered in this chapter. I begin analysis here as these events often signalled the start of participants' entry into the field of chaos. I never instigated conversations about traumatic experiences, but participants often chose to start their stories here, emphasising the explanatory power they placed on them.

Stacey had a normal upbringing, living happily with her parents and having a good relationship with her older and younger brother (social capital). She aspired to go to college (human capital), and when she turned 16, she began working to improve her economic capital and conform to societal expectations (cultural capital). She begins her story by describing her parents' separation and the brutal murder of her mother.

> **Stacey**: *"I'll tell ya what happened. I was 17 and my dad had had an affair and me mum and dad ended up splitting up. And [mum] ended up … moving in with*

this other man and they were rowing one night, and he killed her, and I were there."

Mark: *"You saw it?"*

Stacey: *"Yeah"*

Mark: "*Yeah. I do remember you telling me that. That must have been…"*

Stacey: "*She asked me to go outside so they could sort things out and I [really] didn't want to go outside, but I always did what she tell me. And as soon as I got through [the] door, the door slammed, and it were locked as well so I couldn't get back in. Then there were a big bang and that were it. When police got there, they made me go upstairs … I had been trying to give her mouth-to-mouth and put her in the recovery position, and did everything what I thought might help. And then police made me go upstairs and wouldn't let me know if she were dead or alive till they'd interviewed me. Six to seven hours I was being questioned and I didn't even know if she were alright or not. And then at the end of interview they told me that she were dead."*

Mark: *"I can only imagine the impact that must have had."*

Stacey: *"I was 17, she was everything to me. She were me mum, my sister, me best friend. She kept me so well protected."*

The murder of her mum had severe implications for Stacey's life. She had experienced a sharp decline in social capital losing her primary caregiver. Social support in the aftermath of this traumatic event was crucial in supporting her. Despite her dad's adultery, she still had a good relationship with him. He was eager to take her in and fulfil his parental responsibilities. However, this ended in further trauma for Stacey.

Stacey: *"After my mum was killed, I had to go and live with my dad, and everything were great. He begged me. He wanted me to go and live with him and he decorated my bedroom and everything. We had a nice arrangement. I'd clean [the] house and cook teas and sort washing out and that, and I didn't have to pay no rent, because I were at that awkward age where you've left school but you're not old enough to claim …. So, we were quite happy with me living there as long as I were … pulling my weight round the house and that. He was still supporting me and then he got a new girlfriend (laughs). She told him that we were using him and abusing him, and we should be paying him money. I didn't have a job, and my mum had just been killed, I were in a fucked-up place. I were 17. I had three jobs in Yarrow. But I had to move to Littlewood to go and live with my dad … I did go back to one of them but other two I didn't because they were behind the bars … and I was scared that man would come in …"*

Mark: *"So, then what happened then? This woman was putting these thoughts into your dad's head?"*

Stacey: "*Yeah, and things just changed. He took [our] bedroom doors off and all sorts, and said we didn't deserve bedroom doors."*

Mark: *"Was your brother there as well?"*

Stacey: "*Yeah, me and our Pete (brother), yeah. So, we'd had an argument one week … and there were a little dint in a wall. So, he took [our] doors off. And we were like 15 and 17. But that were her that made him do that. He just totally changed and then, like, me mum were killed in February, and it got round to New Year, and he kicked me out New Year's Eve. So, I hadn't even been*

there a year. Me mum hadn't even been gone a year and he kicked me out New Year's Eve. So, I had to go kip in park"

Within a year, Stacey went from the protective bubble of her mother to rough sleeping in a park. Removal of parents/caregivers and family breakdown are common causes of youth homelessness (3.4.2). I asked Stacey to recall what was going through her mind as she walked through the park searching for somewhere to sleep.

Stacey: *"Just what the fucks happened. Where's my life gone? Where's my mum, where's my dad? I was just in shock."*

Other participants disclosed stories of youth trauma. Frank shared how he grew up under the threat of physical abuse from his stepfather.

Frank: "*From being a child, mate … my stepdad were a 6 foot seven Jamaican … and he was brutal. He were brutal, mate. So, I would've been like 6/7/8 year old … violence that young. You know, for violence to become that normal to a kid mate … I think back now, and it makes me want to cry … for the child that I was."*

Steve grew up in harsh conditions where he took on the role of the primary caregiver to his younger siblings. This impacted his friendships (social capital) and engagement with school (cultural capital and human capital)

Steve: *"Well … I'd spent most of my life as a kid not really having the same sort of upbringing that most kids have … father physically, psychologically, and emotionally abusive. Mother went blind at 12. She got trauma herself from her devastating upbringing. It's a really dysfunctional environment to grow up in and around 14/15 [years old] I kind of took the role as the parent. I don't look at my mum and dad as my mum and dad, I kind of looked at them as an older brother*

and sister that were … too young to look after kids and had not really …matured. So, I kind of took that role … and that's not the life of a kid … You're supposed to be free to really understand things and go chill out with your friends and I weren't. I was sort of trying to look after my brother and sister … sacrificing my own time at school and there was a lot that was lost there."

Erica said she had a *"dark long path of various abuse that came from women"* including her mother. She was constantly in and out of care from the age of 10 as her mum went to rehab for SUD. Parental drug addiction and involvement in the care system are strongly associated with adult homelessness (Chamberlain & Johnson, 2013). These experiences can significantly impact mental health (human capital) (Engler et al, 2022) and lead to disruptive attachment, which can result in emotional or behavioural problems (Choi, et al., 2020). Erica attributes her youth trauma to shaping her identity, stating *"It's like part of my identity"*. Exposure to violence and abuse as a normality deeply ingrains certain habits, dispositions, and perceptions within individuals, shaping their habitus and influencing their behaviours and interactions. Frank discussed how he was conditioned by the violence that surrounded him and had to appear emotionless to survive.

Frank: *"Where I was brought up, Mark … you had to lose a certain part of your humanity to survive. You couldn't have things like compassion or empathy, or kindness or concern for anybody. Any sort of … emotions like that or feelings … it made you a victim"*

Steve also experienced hiding emotions due to environmental pressure.

Steve: *"You grow up in an environment where that's a big core foundation of the narrative, an atmosphere that you get upset, you're going to get punished,*

you're going to get belittled … Then it becomes … a chronic cycle … of suppression and then people become super aggressive, because you can't get in touch with yourself."

For Frank, he masked his emotions to navigate the violent field that surrounded him. This created a violent habitus based on survival. He mirrored the violence that he experienced as a child on others, saying *"I've committed a lot of acts of violence, and I've had a great number of acts of violence committed against me"*. This resulted in him entering and exiting the prison system from the age of 13, making him *"institutionalised, hardened"*. McGarvey (2018) says that the adoption of violent norms is integral to survival within the prison institution, with these practices mirrored in the households or communities that many prisoners grow up in. Frank describes how the social conditions that he grew up in shaped his behaviour.

Frank: *"…being from a deprived area, I think circumstances and environment had a great deal to do with it. Socioeconomic reasons and things like that. One-parent family brought up in a greatly deprived area … huge unemployment problem … lower class and the peers that I had growing up they were all like hard men … hard fighting, hard drinking men. A lot of crime. A great deal of crime going on. And it was just like, good people doing whatever they could to survive"*

Growing up in poverty further compounded Frank's trauma. Whilst poverty is indicative of a lack of economic capital, those experiencing it are subject to various traumas (3.4.1). In her autoethnography on experiences of poverty, Hudson (2014) describes the social rejection, isolation, stigmatisation, and insecurity that typify living in poverty and form an individual's identity, especially for those growing up in poverty. These

experiences are traumatic and are detrimental to a young person's social capital, and their human capital, as they navigate the stressors that characterise poverty. Like Frank, Eva too grew up in poverty. She says that she *"grew up on a rough estate"* and that she was *"barely even working class"*. Eva never disclosed too much information on her childhood experiences but had battled with SUD since the age of 12. Addiction at such a young age signals trauma and a habitual disposition towards negative coping mechanisms (human capital). This habitus continued to be present in adulthood and contextualises Eva's experience with addiction (see 8.5).

The analysis of participants' experiences in early life offers a substantial insight into the impacts of early trauma on capital and habitus. The following sections explore participants' experiences in later life and how their habitus directed their navigation through the social world. For now, Steve offered a valuable insight.

> **Steve**: "*I grew up with trauma. Terrible things that happened, and I never allowed myself to feel it, and anytime I did, I felt shame and guilt over it because of how [I've] been conditioned. [It] sets you so far away from yourself. There's no clarity, you can't think. Any job you go into, it just self-destructs, sends you into a pattern of self-destruction. There's no hope, we could sit here forever and talk about how that can manifest and how that can really kind of destroy you from the inside out…"*

Not all participants disclosed trauma at an early age. Some experienced it much later in life, yet the impacts are substantial.

8.2 Lost Connections: Shaping Adult Habitus Amidst Instability

Craig: *"I had no independence. I had no close family members"*

Disruptive social experiences in adulthood played a substantial role in influencing capital and habitus. Family and core social relationships are acknowledged as crucial for development, protection against homelessness, and mitigating the negative impacts of trauma (Johnson et al, 2015). Dysfunctional families, conflicts, or complete breakdowns were prevalent across participants and these underscored notable challenges.

Finley (27) is a trans man[11]. He came out in his 20s after receiving support for mental health and addiction issues (see 8.4 and 8.5). These issues stemmed from trauma associated with his gender identity. Social barriers prevented Finley from coming out sooner.

> **Finley**: "*So, the end of 2020 that sort of liked stopped. I accessed mental health support, and I was working on myself, and I think it made a difference coming out and … owning that identity and being able to be myself and to be seen as such."*
>
> **Mark**: "*Had you supressed this for a while?"*
>
> **Finley**: "*Yeah, I mean my mum is … fairly transphobic, so that was very difficult for me … and there has been a lot of incidents in my life which … haven't been*

[11] Finley has self-identifies as a trans man. It is important to respect and use the terms individuals choose for themselves to accurately reflect their gender identity and personal experiences.

great. I've experienced a lot of trauma and so … it was difficult for me to come to terms with … as a result of that … trauma."

Coming out was not an easy process for Finley. LGBTQ+ individuals are overrepresented among homeless populations (McCarthy & Parr, 2021). Statistics from Stonewall (2018) show that almost one in five LGBTQ+ people have experienced homelessness. Rates are higher amongst trans people, with 25% experiencing homelessness (Stonewall, 2018). Navigating social relationships for trans individuals can be difficult as they face social rejection (McCarthy & Parr, 2021). This applied to Finley as he says he had to *"cut a lot of people out"*, including his mother – damaging his social capital. This relationship is still damaged 3 years later.

Finley: *"…I have a very turbulent relationship with … my family. So, I'm in touch with my mum, but it is at very much a great distance. It's very difficult to spend time with her"*

Finley experienced severe social isolation from his family when he came out. This constructed a habitus that feared social stigma and discrimination (see 10.1). At this point, Finley was not living in the family home but with his partner; however, this was a violent relationship (see 8.3). He wanted to leave but did not have the support of his family (social capital) for housing. When he did leave the relationship, he was homeless.

Finley: *"I was involved with … [a] domestic violence service … I was having a lot of difficulties with … living … housing … things like benefits … issues with jobs, and things like that. Just sort of everyday life … and … the finances as well … [I had] a lot more responsibilities. Lots of things to sort out [and] my mental had already taken a hit [and] there was a lot to … take on. I was working*

through the violence and everything like that so … they suggested … well they referred me actually to Shelter"

Mabhala (2017) posits that the final stage of someone's homeless trajectory is a complete collapse of relationships. For Finley, his collapses of relationships were leaving an abusive partner and an unaccepting mum. The two resulted in homelessness and approaching Shelter for support.

Relationship breakdowns are frequently highlighted in homelessness literature, with family breakdown often cited (3.4.2). This aligns with the experiences of participants, such as Craig and Oscar, whose families broke down following parental bereavement, negatively impacting their capital stocks.

Mark: "*Yeah. I'm pretty sure you've told me previously that you were street homeless?*"

Craig: *"Yes"*

Mark: "*Are you able to tell us how you ended up in that situation?"*

Craig: *"So … it was 2005. I would have been about 24. 24/25. So, it was 2005 Christmas, we had a death in the family. It was sudden … me mum, she had a breakdown, and my brother had to go into care to be supported. And then … I didn't have any access to the property, so I became street homeless. I ended up on the streets with nowhere to go and then you're asking family and friends if they can … let you stay there for a couple of days. And then … you end up … staying with family and friends … trying not to get in the way or anything and then suddenly … without any warnings, they're saying … 'today you're going to have to move on' for various different reasons … So you pay your way, and you*

give all that you can and then you just have to move out and go somewhere else … ”

The death of Craig’s father shattered his family and triggered a collapse of social capital. His mother’s breakdown and disabled brother going into care further exacerbated the family’s instability. He exhausted all housing options within his social circle. Craig then provides more context on the dynamics of his family before the death.

Craig: *“The family structure was … like I had a mentally handicapped brother. So, he was being cared for and supported by my mum”*

Mark: “*What was the age difference between you and your brother?”*

Craig: “*The age difference is maybe … 15 years”*

Mark: “*Years younger or older?”*

Craig: *“Yeah older”*

Mark: “*Yeah, and is it just you and your brother?”*

Craig: “*No there is me and three other siblings”*

Mark: *“And what was your relationships like with the other people in your family?”*

Craig: *“My family … were not a very close knitted family … because like the brothers … [we’re] all … competitive … so … one always had their opinion on the other one. So, it was always like wanting to get an upper hand on the other one”*

Mark: “*Yeah, sibling rivalry?”*

Craig: *"… I figured out as I was getting older who I was becoming, and that I didn't want to associate with my … brother's circle."*

Mark: *"And why didn't you want to associate with them?"*

Craig: *"Because I felt like … if I were involved [with my brothers] that it would probably take me down a different path."*

Before the death of his father, Craig's family dynamics were characterised by distant relationships, marked by sibling rivalry and lack of closeness. As the youngest, Craig relied heavily on his parents. Craig had autism (see 8.4), which complicated his relationships as he struggled to connect with his siblings' circles and was cautious of the potential negative consequences of following their paths. The situation that Craig found himself in was sudden and unexpected. The protection he once had from his family eroded, leaving him to face the harsh reality of homelessness.

Craig: *"… growing up in my home environment … I never really saw anything on the outside … I just kept myself to myself … It was not even anywhere in my thought that … [with] the upbringing that I had, the holidays that I had growing up on the east coast … I could never envisage and never imagine … it could possibly happen (homelessness)."*

Craig's story illustrates how adverse family experiences and concurrent capital collapse can impact an individual's habitus, influencing their social connections and sense of security. The sudden loss of support from his family left Craig alone to navigate unexpected challenges.

Like Craig, it was a family death that left a strong marker on Oscar's habitus and began his journey into chaos, as both his parents died of cancer within six months of each other.

> **Oscar**: *"back in 2009/10 … my mum … was diagnosed with cancer and then I moved back into the house to start looking after me Mum … [She] was given six months, and it was spot on, it was six months. And then me Dad got cancer as well at the same time and then the stress of all that … and then me not getting on with Sarah, my girlfriend at the time …"*

Oscar's experience highlights the profound impact of family bereavement on his social and personal well-being, and how it changed his life as he tried to cope with grief. Following the death of his parents, Oscar's coping mechanisms turned destructive; he used substances to medicate the trauma of his loss (see 8.5). Alongside the death of his parents, Oscar experienced further breakdowns in his social capital as relationships became strained under the weight of his SUD, leading to a split with his long-term girlfriend at the funeral. As time passed, Oscar's behaviour further inclined towards addiction to cope with stress, worsening his human capital. Despite his escalating SUD, Oscar still had the support of his sister. However, this relationship was damaged when her husband committed suicide, further compounding Oscar's challenges. This death was associated with Oscar's SUD, and he consequently faced the blame.

> **Oscar**: *"My sister's husband, he committed suicide, and he was the person who was getting me stuff off the dark web. And … I didn't think he was an alcoholic, but obviously he was cause on his death certificate It says accidental death. And basically, my sister's never got into it, but basically Linda woke up next to John and he had took a load of Valium, which I was prescribed back then, and he choked on his own vomit."*

Mark: *“So, they sort of take it down as an accidental overdose because they can’t be sure it was on purpose?”*

Oscar: *“Yeah. Well, I think it might have been deliberate. Because them two were sleeping in separate rooms and they'd had an argument the night before and I think he might have done it to like, ‘I'll show you’.”*

Mark: *“And that unearthed some trauma for you?”*

Oscar: *“Yeah, because my other sister blamed me for it at one point. Because they were like, you gave him the Valium”*

Polysubstance abuse poses a risk. That risk is heightened when mixing benzodiazepines (Valium) with alcohol due to the suppression of respiratory activity and sedation that characterises the substances’ effects (Knopf, 2020). Therefore, death when the two are combined is common. Oscar’s family ties were now completely severed (social capital) and he acquired the additional trauma associated with his brother-in-law’s death. These experiences served to reinforce and perpetuate his destructive patterns of behaviour, in the form of addiction (see 8.5), that were now engrained into his habitus.

Steve’s childhood trauma and its impact on his habitus are outlined in 8.1. He was physically and emotionally abused by his father and was the primary caregiver to his siblings. As an adult, he was close to his brother, and they lived and worked together as chefs in the same restaurant. However, the legacy of childhood trauma lingered, manifesting in strained relationships and eventual homelessness. Cutuli et al (2017) suggest that ACEs can resurface in adulthood, particularly in challenging circumstances. As Steve’s past trauma infiltrated his adult life it created immense

strain, impacting his relationships. Firstly, with his partner, and then with his brother, resulting in homelessness.

> **Steve**: *"…it was the splitting up with my Mrs and it being real brutal … and falling out with my brother. Falling out with my brother, who was at the same place. We was both chefs. We both worked in the same place and back then my brother was just as traumatised as I was, and he was a cold person. He didn't really deal with things the same way … We both got a place together and he threw me out because … id had a fucking depressive bout and then I was on the phone to [the] fucking Samaritans … it was all coming to the surface … And then I didn't turn in to work and he grilled me for it. And I sort of said to him … like, 'fucking dealt with mental health all me life and you couldn't give a flying fuck' … 'You're a piss poor excuse for a bother', that's what I said to him. And he threw me out."*

Steve's entry into homelessness was marked by a significant depletion of social capital which compounded his mental distress. This signalled a downward spiral as now homeless; he depended on friends. After exhausting options with friends and falling into further feelings of helplessness, Steve sought escape from the chaos by approaching a hostel for support. Yet, ultimately engulfed by the desperation of his circumstances, he decided to take his own life (see 9.1).

8.3 The Price of Violence: Beaten Capital and Damaged Habitus

Frank: *"I've committed a lot of acts of violence, and I've had I've had great, great number of acts of violence committed on me."*

Experiences of domestic abuse (DA) were common. Under the *Domestic Abuse Act* (2021), behaviour is classed as abusive if it consists of: physical or sexual abuse; violent or threatening behaviour; psychological or emotional abuse; controlling or coercive behaviour; and economic or financial abuse. As part of the Domestic Abuse Act 2021, changes were made to the Housing Act 1996 which came into effect on 5th July 2021. This made any person at risk of DA automatically homeless regardless of availability and legal rights to occupy accommodation in England (Shelter, 2023). DA garnered increased attention during and after the COVID-19 pandemic due to concerns about potential spikes resulting from lockdowns, economic stress, and social isolation (Illesinghe, 2020). There were campaigns by DA charities and the government to raise public awareness as increases in DA were documented in the UK (ONS, 2020). Following this, there has been an upsurge in studies investigating DA, with an emphasis on experiences during the pandemic. Research into the relationship between DA and addiction (Cafferk et al, 2018) and DA and homelessness (Baker et al, 2010) is common. However, studies through the RC lens are limited, and research on its impact on capital more broadly seems scarce. Yet, given the evidence on the impacts DA has on various capitals – such as human capital in the form of mental health issues (Howard et al, 2010), social capital through isolation (Illesinghe, 2020),

economic capital via financial instability (Showalter, 2016), and physical capital through long-term injuries (Alejo, 2014) - inferences can be made about its effects on RC. In short, these experiences directly shape a person's habitus.

Both Finley and Eva were in their 20s and had been in abusive relationships. Finley details his abusive relationship.

> **Finley**: *"They were … abusive, very, very toxic. Hence why I got in touch with domestic services. They had a lot of control over my life, and it was … not good."*

These experiences impacted their habitus as they internalised feelings of fear, powerlessness, and low self-esteem (human capital). They formed a habitus of vulnerability which shaped their responses to conflict in the form of avoidance for Eva (see 10.3), and distrust for Finley (see 10.5).

Whilst Stacey was never physically abused as a child, she experienced severe neglect from her father after her mother's murder which resulted in her experiencing homelessness (8.1). Jewkes et al (2002) found that abuse in childhood was a high-risk factor for experiencing DA in adult life. Furthermore, Riggs et al (2000) identified mental health as a risk factor for entering a violent relationship. The capital that Stacey possessed because of her experiences formed a vulnerable habitus which was exploited by men as she continuously entered violent relationships. She describes her adult life as being filled with *"abusive nob head men"* that had left physical and mental scarring. During an interview, Stacey disclosed abuse that she experienced from a previous partner.

> **Stacey**: *"… that scarred all my face. But that scar's gone down as well. That side of my lip used to be fatter than that one."*

Mark: "*Is that from the domestic violence?*"

Stacey: "*Yeah, it was split all the way through and all [the] inside of my lip were dangling down. There's like 102 stitches in there and it's gone down. You can still see the scar obviously."*

A week later, Stacey elaborated on this abuse as I gave her a lift home after an MMA class.

Stacey was quieter than usual on the drive home, and I found myself monologuing about not caring about Christmas this year. After I had finished, Stacey asked, "Do you want to know the finale?". This confused me and I asked, "the finale?". She then expanded, recalling that the previous week during an interview she had told me about an ex-partner who had been abusive. This cleared things up. "Only tell me if you feel comfortable ", I said. She responded that she wanted to and proceeded with her story. Stacey had found out that her partner was drugging her. She discovered through finding a videotape that had been left in the player. The tape was unrecognisable, and she was curious as to what it could be, so pressed play. The tape showed a recording from a camera. Stacey could see herself passed out on the couch; the camera set up in a way where it was like the TV was staring back at her. She could hear the voice of her ex-partner on the recording, but then heard another voice that she didn't recognise ask, "Are you sure she won't wake up?". Stacey said that when she heard this voice, she quickly removed the tape and stamped on it. Hysterical, she confronted her partner as soon as he returned home. "He just admitted it all. Said he had been drugging me and doing it for months. Selling the tapes to people down the pub", Stacey said. There was little emotion in her voice. She then

reflected, saying that she was unsure whether he had been doing this but at the time it sent her into a chaotic spiral. "Well, I just lost my head. I have no memory of nothing until I woke up in a police cell after being arrested for drunk and disorderly", she told me. I never spoke when Stacey was telling me this. I remained focused on my driving and listened. She never said what she thinks happened to her when she was passed out. I never asked. Soon after she finished her story, we arrived at the bus stop outside her house. As she gathered her stuff to leave, she cheerfully said "I right enjoyed that class today. Thank you, Mark. See you next week!", and she exited the car and made her way towards home.

The abuse described occurred years before I met Stacey, but her experience of abusive partners continued. When she began MMA, she was in a 10-year relationship. She soon exited this relationship and on reflection realised that she had been abused, but not in a physical way.

> **Stacey**: *"So, when I look back on years that I've let him keep me in the house. I wouldn't say he's treat me like shit but he's manipulated and played my feelings for him to get control. Do you know, like other men that I have been with that have smacked me about and that, he's played mind games with heroin [with] him going and fetching it for me … so I'm totally dependent on him … He did it more mentally than physically. But I still think it were abuse."*
>
> **…**
>
> **Stacey**: "*Yeah, he totally manipulated [me] … For [the] first five years before heroin we were pretty good together … once heroin started … [and] him not stopping buying it, everything just changed. For me anyway"*

Mark: *"Well, it was a long relationship, wasn't it?"*

Stacey: *"Yeah"*

Mark: *"And your fully away from it?"*

Stacey: *"Well, he's stalking me. He stands outside me bedroom. You know, the little wall outside me house. He stands outside there at night crackling beer cans, and he leaves them on the wall. So, if I've got earphones in and I haven't heard it crackling I see beer cans on the wall. So, I know he's been lurking. Looking up at me bedroom window."*

Stacey's exit from this relationship and recognition of the abuse occurred in conjunction with her MMA attendance, explored deeper in Chapter 10. This partner exploited Stacey's vulnerabilities and introduced her to heroin (see 8.5). The same occurred with Eva whose abusive partner introduced her to opioids during a time of mental turmoil. Having battled with addiction from the age of 12 (8.1) she was susceptible to abusing substances as a coping mechanism (human capital). This vulnerability was taken advantage of by an abusive partner. Abusive partners introducing the other partner to substances, often addictive ones, is known as substance use coercion within DA literature (Phiilips et al, 2020; Matthew et al, 2021). In Stacey's and Eva's case, it was used by their partners as a tactic to exert control over them and reduce their self-sufficiency. As a result, their agency was damaged as their autonomy to make their own choices was restricted.

The violence that Frank was exposed to during his childhood (8.1) followed him into adulthood and the prison institution where he experienced brutality at the hands of staff.

Frank: *"… I suffered quite a lot … of brutality from … prison officers and things like that."*

Mark: *"Did you?"*

Frank: *"Yeah mate, my first … ever bad one I were 18, had gone back in on remand … and … id had a fight with someone … I'd had a fight on yard and prison officers have … grabbed me. Four of them, one on each arm, one on each leg, and they're holding my head down and they broke my wrist … by putting my hand up [my] back because they were trying to make us scream and I weren't screaming. Obviously, when they broke my wrist, I screamed."*

Mark: *"Yeah, your gonna aren't you. Fucking hell."*

Frank: *"But they were shoving me hand that far up my back to try and make me scream out and because of stubbornness they broke it."*

With an established habitus of violence for survival (8.1), it infiltrated into his relationships. His entry into homelessness was a result of a relationship breakdown due to DA.

Mark: "*How long had you been on the streets for?"*

Frank: *"Erm, 18 months. Yeah, it were a relationship breakdown."*

Mark: *"Is that what caused it?*

Frank: "*In the family"*

Mark: *"First and only stint?"*

Frank: *"Yeah, that's the only. I walked out the family home and it were a toxic relationship. A lot of abuse, verbal, mental, and unfortunately on my part …*

physical abuse. And I couldn't … cope with it mentally … what I'd become. I walked out the family home. I had four boys as well. I mean … I had a little tiny mental breakdown, and I didn't feel like I deserved to live basically … I were at a low point in my life … I felt worthless and that. I had no love for myself, no self-respect, no self-esteem, no self-worth. Yeah, it were a low point."

Frank describes a deterioration in both social and human capital, which resulted in homelessness. He lived on the streets for 18 months where he experienced further violence and attempted to commit suicide (see 9.1). Frank states he could not cope with what he had become. Within veterans' Post Traumatic Stress Disorder (PTSD) literature, the term moral injury is used to describe distress caused by transgressing or violating core moral boundaries (Koenig et al, 2019). Whilst violence formed Frank's habitus, he states that he *"didn't want to be like that"* and that *"I knew a lot of the time that I was wearing a mask"*. Therefore, like veterans, Frank's actions were counter to his morals and committing these acts of violence eventually resulted in a mental breakdown.

8.4 Trauma's Shadow: Psychological Burdens and Human Capital Erosion

"Trauma is not the bad things that happen to you, but what happens inside you as a result of what happens to you" (Maté, 2021)

Aligning with the literature in 3.6.3, the prevalence of psychological issues was high across participants. Often where trauma was experienced, PTSD followed. Individuals

with PTSD suffer from a collection of symptoms including avoidance, intrusive thoughts, forming and maintaining social connections, and performing cognitive tasks (Van Der Kolk, 2014) affecting an individual's capital. In the study, 11 participants disclosed that they had a diagnosis of PTSD. As a result of her mother's death (8.1) and the various forms of DA she had been exposed to (8.3), Stacey had PTSD

> **Stacey**: *"That's what they [have] been treating [me] for all this time and nowt ever worked for me. Now they've told me I've got PTSD."*

The event of her mother's death is still strong in her memory.

> **Stacey:** "*I still can feel what her tongue felt like. You know, from when I was trying to make sure her airways were clear and shit like that. I can still feel it. Yeah, that might be why me feelings fucking went away because there was nout but feeling bad*".

PTSD impacted Stacey's autonomy as she avoided public transport and leaving her house alone (human capital). She said she felt "*panicky about being out on the streets on her own"* describing herself as a *"rabbit in the headlights".*

Steve's PTSD was caused by child abuse (8.1). This impacted his mental health (human capital) and relationship with his brother (social capital) causing homelessness (8.2). His PTSD manifested into chronic pain which had negative consequences on his physical capital.

> **Steve**: *"And then two years later I got my diagnosis for complex post-traumatic stress disorder. CPTSD"*
>
> *…*

Steve: *"the chronic pain was a big, massive changing point. I just kind of did what I do with anything when there's a problem, I look for the solution and I fucking drive at the solution as best as I possibly can. But there were no solution, and after 5 years or so of going in and out of it, it comes down to that its massively correlated to my PTSD"*

Van Der Kolk (2014) hypothesised that PTSD follows trauma when an individual is unable to, or has difficulty, in processing traumatic memories. This is indicative of a lack of human capital which is crucial to recovery. Steve struggled with making the association between his PTSD and chronic pain. He said that he lost his *"grip on control"* as he was unable to comprehend what was happening. An accumulation of diminishing capital stocks led to entrenched substance abuse (see 8.5).

Jason never disclosed in detail what his PTSD stemmed from. He provided a brief insight.

Jason: *"There was a lot of violence involved in my past addiction … and just life in general"*

Nevertheless, his experiences had lasting impacts.

Jason: *"When you have trauma, trauma, trauma … it's harder to process because it's … a lot of things. So, although there were specific events, I didn't know which one we were meant to go down. But it doesn't really matter, for me, as an adult the outcome was the same. So, issues with my adrenaline, noradrenaline and what not. I [have] also got more stuff. I've got schizophrenia, which is indifferent schizophrenia, I think it's called, which is like a form of two different types. Cos, I did have paranoid schizophrenia, 100%, but then it*

started to drift into … another type, the term alludes me"

The trauma Jason experienced left him with complex psychological challenges (human capital). His description of how trauma can be accumulated over time emphasises how these experiences can become engrained into an individual's habitus, affecting their ability to regulate their mental well-being.

Frank's PTSD, a result of violence (8.1 and 8.3) impacted his habitus.

> **Frank**: *" … I used to meet people, and to some degree, I still do it now, and it's unconscious, I see people in the street and immediately weigh them up as a threat … or not a threat. In a split second. It's so unconscious."*

Frank's automatic response highlights how experiences of violence and the development of PTSD can instil an unconscious tendency that shapes interactions and behaviours in everyday life.

PTSD was not the only psychological challenge participants faced. Finley had a history of mental health issues, including an eating disorder.

> **Finley**: *"When I was younger, I struggled with an eating disorder. So, I was … underweight and … that is something that I really struggled with. So, it was sort of body-checking. It was checking the numbers. It was hoarding food. It was keeping food away. It was limiting my calorie intake to … literally nothing. I was fasting for days. So, really really bad."*

Eva also had an eating disorder.

> **Eva**: *"I had anorexia when I was younger … it was really bad"*

In the discussion of Eva's struggles with addiction since the age of 12 (see 8.5), how

her experiences with poverty and the structural framework have influenced her trajectory can be understood. This early exposure to addiction likely shaped her habitus and patterns of behaviour, leading to negative coping mechanisms. Her eating disorder may represent a habitus attempting to exercise control. Similarly, when exploring Finley's struggles, the interplay between structure and action becomes apparent. Structural circumstances restricted him from being able to be open about his gender (8.1), in turn, detrimental to his mental health. SUD was a coping mechanism for the adversity he experienced (see 8.5) and controlling his food, along with self-medicating, may have been an attempt to implement agency and exercise control. Their experiences of having an eating disorder align with Robinson et al's (2019) research which highlights the relationship between eating disorders, mental health, and SUD. There is also research that suggests individuals with SUD are more likely to have subthreshold eating disorders compared to those without SUD (Calero-Elvira et al, 2009). This contextualises the experiences of Eva and Finley and highlights the multifaceted conditions that complicate their attempts at recovery.

Finley's issues with mental health continued through adulthood.

> **Finley**: *"When I went to uni I got diagnosed with EUPD, or borderline personality disorder with obsessive-compulsive tendencies. … I would go from very high periods of mania to very very low periods of depression,"*

His experiences with his gender also impacted his mental health.

> **Finley**: *"I used to swim pretty much every day … that was something I really really enjoyed … and then my dysphoria got really bad that I couldn't … be in that environment."*
>
> **Mark**: "*What does that mean? Dysphoria, sorry"*

Finley: *"… gender dysphoria is … the distress that you feel … ok so imagine … obviously, your cis, you're a man, but inside you feel like a woman, but outside you look at yourself in a mirror and you see a man, and there is nothing more that you can see. And there is … that emotional and physical reminder that is there, and that distress that … follows. So, it is the incongruence between your assigned gender and your gender identity and the distress that … comes with it…"*

Finley received an ADHD soon after starting MMA, as did Erica. The prevalence of autism and ADHD in the homeless population was discussed in 3.6.2. Neurodivergence was common across participants, with nine having a diagnosis of autism or ADHD. Aaron was diagnosed with autism when he was eight and was bullied in school. He describes how his habitus was shaped by the discrimination experienced in the past.

Aaron: *"…I always have this thing in the back of my head where I'm like, oh, you're not confident, but actually talking to people these days, I do find it a lot easier. Like, I do always have that thing though, where I'm like they all … don't like me, or they all think that I'm … strange, or they don't get me…"*

Mark: *"Yeah … is that autism that causes that?"*

Aaron: *"I think so yeah, I think it's a self-doubt thing that comes from the way that I've been treated because of my autism."*

Mark: *"Right, yeah. Going back to when you were in school?"*

Aaron: *"Childhood, yeah"*

Steve and Craig were diagnosed with autism as adults. Individuals with undiagnosed ADHD and/or autism are vulnerable to a plethora of risks impacting mental health, SUD, managing money, social difficulties and difficulties in relationships, and education/work (French et al, 2023). All of these have associations with varying capital and raise the potential of homelessness. Steve talked about the struggles that he experienced before his diagnosis and how they intersected with his past traumas (8.1 and 8.2), plummeting him into substance abuse (see 8.5).

> **Steve**: *"… when you have trauma and you don't know you've got trauma, when you've got autism, but you don't know you've got autism, you don't know how to fight it. You just think that you're a weaker person than everyone. You just think you're not as strong as everyone, and you don't know how to fight this thing, you just know you're different. So, when you have that it's just a matter of time before chaos … comes into your life. And as chaos came into my life, big, big things, you run headfirst into that substance just a little bit more."*

Steve's self-perception of feeling like *"a weaker person than everyone"* is a form of symbolic violence (5.2) caused by his autism and PTSD as he struggles to fit into societal norms and expectations (cultural capital). This pushed him into substance abuse (see 8.5).

Craig's autism impacted his economic capital as he faced difficulties maintaining employment.

> **Craig**: *"There was always that difficult side with … not being able to do certain tasks, or certain works, and undermined in that environment. And with my condition it was difficult … for managers and supervisors to understand the complexity of what my needs were as an individual. So, putting me on one job*

everything runs smooth, but then to put me onto another task … everything would collapse around me"

The lack of support he received affected his ability to pay bills (human capital and economic capital) and maintain his housing.

Craig: *"… before you know it … I was [in] … 100s of thousands pounds in debt"*

Failures to support Craig's neurodivergence led him to experience homelessness for a second time and face further trauma from the hardships of rough sleeping (9.1). There are parallels between neurodivergence and mental health in that when left untreated, they can reach a crisis point. For Craig, that crisis point was homelessness; for others such as Steve, Aaron, Frank, and Oscar it was suicide (see 9.1).

8.5 Medicating the Trauma: Experiences of Addiction

Steve: *"it offered me alleviation and it kind of made me think, you know, where's this been all my life? I don't have to feel like that anymore, there's a quick fix. It's a recipe made for disaster init …"*

SUD was prevalent across all participants, except Craig. Alcohol, opiate, and cocaine addictions were common, with their prevalence in the homeless population discussed in 3.5.1. The psychological challenges described in 8.4 were a product of experiences discussed in 8.1, 8.2, and 8.3. Drugs offered relief and participants attributed their addiction to self-medication, aligning with Khantzian's (1997) model and subsequent

support from Smith et al (2017) and Hawn et al (2020) as outlined in 3.6.3. Abusing substances as a coping mechanism is indicative of diminished human capital and a disposition (habitus) towards damaging behaviour. It is also a manifestation of autonomy in utilising the limited options available. Oscar developed an alcohol use disorder (AUD) following the deaths of his parents. AUD is a pattern of alcohol use that leads to impairment or distress. It includes issues such as loss of control over drinking and continued use despite problems (American Psychiatric Association [APA], 2022). Oscar's entry into AUD suggested self-medication as he coped with the death of his parents (8.2).

> **Oscar**: *"… I started buying little bottles of gin, started walking the dogs to the animal farm in Grace Park, and I used to climb over the fence and used to sit in with the Donkeys and they was my therapy"*
>
> **Mark**: *"Was they?"*
>
> **Oscar**: *"((laughs)) Yeah"*
>
> **Mark**: *"Did you use to talk to them?"*
>
> **Oscar**: "*I used to talk to the donkeys"*
>
> **Mark**: *"Whilst you were drinking?"*
>
> **Oscar**: "*Whilst I was drinking, yeah"*
>
> **Mark**: *"What did you use to talk to them about?"*
>
> **Oscar**: "*Everything. The politics of the family arguments."*
>
> **Mark**: *"Oh did you?"*

Oscar: "*Yeah about how my mum were about to die, my dad were about to die and all the rest of it"*

Oscar's drug habits before this were recreational. He had smoked cannabis and consumed alcohol, but controllably. When his parents became ill, he found comfort in alcohol and when they died his use accelerated.

Oscar: *"Yeah, and then [the] next night came along, and I think, yeah, I enjoyed last night … that was therapeutic. Thought I'll do it again, and then it just became my therapy. Me talking to the donkeys with the dogs."*

Mark: *"Did the alcohol become a bit like therapy as well"*

Oscar: "*Yeah. That as well of course. Yeah"*

Mark: *"And that carried on for … how long?"*

Oscar: *"… after my mum died, I got onto a bigger bottle. So yeah, [I] was … drinking a bigger bottle and [then] me dad died, of course."*

Alcohol was a coping mechanism for Oscar (human capital). Even years later he was still using alcohol to relieve the trauma.

Oscar: *"… I used to have these dreams where I would relive my parents, you know, because I watched them both die. So, I would … relive that, yeah."*

Mark: *"So, what would you do?"*

Oscar: *"I would just have gin ready. That's why I used to kid myself and get two bottles. I used to think I would just have a bottle and a half, go to sleep and then if I wake up, I've got half a bottle to get back to sleep"*

As his alcoholism spiralled further out of control, he began to use cocaine for the functional purpose of allowing him to drink more.

> **Mark**: "*When did the cocaine start? You said it was cocaine, wasn't it?"*
>
> **Oscar**: "*Yeah. That was more as an afterthought. So, say for example I'd had a drink, it made sense to have a few lines as well. That obviously helps you drink more as well so it's like win, win"*

Intoxication was so important to Oscar that he sought unconventional methods to enhance it.

> **Oscar**: "*Even in lockdown, for example, I was running up 14 flights of stairs, well 15 including ground, and … drinking gin as soon as I got to the top. Because obviously when you start running you've exerted yourself, your blood's flowing and then the gin goes to your head quicker"*
>
> **Mark**: "*And that's why you were doing it?"*
>
> **Oscar**: *"Partially, yeah"*
>
> **Mark***: "To get drunk quicker?"*
>
> **Oscar***: "Yeah. So, if I were running short of Gin then that's what I would start doing… to make the high last longer"*

Eva, having lived in poverty (8.1), struggled with addiction from a young age (8.1), and been abused by her partner (8.2), used alcohol to cope with her trauma.

> **Eva**: *"…… when circumstances got worse it was just all day every day. The second I woke up till the moment I went to bed. I'd wake up in the night sometimes and be like, I need a drink"*

Stacey also had a traumatic past (8.1 and 8.3) and found alcohol effective relief. When her partner introduced her to heroin during a period of severe mental distress (8.3), she found it more effective than prescribed medication.

> **Stacey**: *"It chilled me head out, yeah. And cos no other medication that I took had ever done that, I thought, right"*
>
> *…*
>
> **Stacey**: *"It was just a bad time, and he give it me and I had it. And then I realised it was … helping me mental health. Making it easier for me to get out of the house because I wasn't going nowhere."*

The support provided by Stacey's partner led to addiction. Although her children were independent adults and she had strong relationships with them, she was unable to confide in them for support.

> **Stacey**: "… *that's why I can't tell me daughter. I've always been, you don't touch drugs, that's why I can't tell her".*

Stacey feared her children would disown her if they discovered her heroin use; therefore, she had no familial support for her addiction (social capital).

Substances also provided Steve solace from past trauma.

> **Steve**: *"At 21 I started smoking weed and dabbling with opiates. Opiates weren't a big thing to me because my dad had been on them all his life. So, it was more normalised. The weed wasn't, but the weed offered some seriously good … alleviation from the trauma … and it's like out else, you're brought up around chaos, you're brought up around negative reinforcement, and nothing is ever good enough, you've constantly got this pit of shit in your stomach of*

just constant chaos, self-destruction and all of a sudden you come across a substance that makes you feel good."

…

Steve: *"it offered me alleviation and it kind of made me think, you know, where's this been all my life. I don't have to feel like that anymore, there's a quick fix. It's a recipe made for disaster init … You feel shit all the time and you're constantly having these fucking terrible thoughts … all of a sudden … you start smoking weed. And weed being a very intuitive drug helps you figure a lot of stuff out. And it did. It helped me a lot. It helped me figure out a lot of stuff, so very quickly it become a massive part of my personality, and it became a non-negotiable in my life."*

Finley abused substances to elevate his mood.

Finley: *"So I was smoking weed every day a few times a day, but then I was also dabbling in things like coke, MDMA … drugs that would bring me up after having … stagnant periods of depression …"*

With hindsight, Oscar, Eva, Stacey, Steve, and Finley speak of their SUD as a conscious decision and are clear in why they used substances, and became addicted, through medicating for their mental health. Out of 20 participants, Craig was the only who never disclosed any SUD. However, he offered an interesting insight from his time on the streets and communicating with people in that field that aligns with other participants' experiences previously described.

Craig: *"… after speaking to homeless people … it's the addictions that gets them through the night"*

Mark: "*Yeah"*

Craig: "… *you know … they will have a drink, or they … take something and that will numb them from the night … This addiction, what they have … it softens the blow to the environment that they are in. … Once that wears off, they are then looking for the next hit to put them back into that position where everything is being numbed again…"*

Manoeuvring within the field of addiction resulted in further chaos in participants' lives, affecting capital stocks. With his social capital depleted, Oscar continued down a path of destruction through substances. It impacted his economic capital as he lost a job. In reaction to the hardships associated with being fired and unemployed, Oscar's habitus of destructive behaviour could not be clearer as he used it as justification to drink more.

Mark: *"So, you lost a job through it?"*

Oscar: *"Yeah"*

Mark: *"Was that just because you just weren't turning up or something?"*

Oscar: *"No, I crashed the van one morning and then they breathalysed me. I wasn't drinking that morning, but I'd obviously not had much sleep the night before and I was over the limit. The Sergeant actually said I could have appealed it."*

Mark: *"Oh, could you have?"*

Oscar: *"Yeah, because it was 40-something. So, it was just slightly over the limit, but I never bothered. And then to prove them wrong I went home and had more drink (laughs)"*

A habitus had been developed that whenever Oscar faced any hardship alcohol was the remedy.

> **Oscar**: *"My only objective was … to get drunk, and I thought it was sustainable. So obviously we just sold the house about a year or so later. So, I inherited some money. So that came in handy."*
>
> **Mark**: *"For drink?"*
>
> **Oscar**: "*Yeah"*
>
> **Mark**: *"Yeah. Is that what most of the inheritance went on?"*
>
> **Oscar**: *"Yep."*
>
> **Mark**: *"Drink and drug?"*
>
> **Oscar**: *"Yeah."*

With the inheritance that he received from his parents spent on substances, Oscar continued down a path to destroy his economic capital. Eventually requiring support to avoid losing his property.

> **Oscar**: *"It just became impossible, yeah. And then eventually I just stopped signing on (benefits)"*
>
> **Mark**: *"But that makes it worse for you though."*
>
> **Oscar**: *"So that's just a green light to carry on drinking then. It's like, 'Oh, your whole life has gone to shit anyway, you may as well just carry on drinking'. And then … you got the perfect excuse to borrow money. I mean, I remember sitting in the dark, I used to borrow money for electricity, and genuinely did need money for electricity. I was on a pre-prepayment meter, and I genuinely did*

need electricity. And it was round about that time when everyone was switching their lights off to save the planet. And I genuinely believed to myself that I was saving the planet by not buying electricity and buying bottles of gin instead. This is the madness … of alcohol, this is what it does to you. It makes you believe the most insane things you could possibly think of. And … at that time in my head, you could not have convinced me any different. And it's … beyond insane now, but at that time it's like no … I'm right, everyone else is wrong. I'm saving the planet and I'm drinking gin."

Mark: *"Yeah. Yeah. So how did you keep on top of … housing then over 2017? … Did you not end up nearly having the same thing happen again or did you get on top of it and get some help with paying it?"*

Oscar: *"Shelter got on top of it for me. Yeah. And then I got onto sickness benefits"*

Jason and Steve also lost their jobs through addiction. Jason was a qualified personal trainer and had worked in the fitness industry for over 10 years. He had been a gym manager, but managing a gym and his addiction was difficult.

Jason: *"When I got the job as commercial manager people were … saying I was doing really well but in here (points to his head), I was not doing well. You know, I was absolutely, probably, [at] one of the worst points in my life."*

He left that job because he said, *"It just became too much".* Steve also reached a point where working and maintaining his addiction became impossible.

Steve: *"… being constantly overwhelmed with intrusive thoughts and trauma memories, you're trying to hold your job together, you're trying do these things*

and you get into these patterns where you go into your jobs and you do really well, but you burn out, you burn out, you can't sleep and that's the cycle"

With little money, individuals are vulnerable to increased risk to maintain their habits. Aaron turned to drug dealing to fund his addiction.

Aaron: *"… I was smoking … 3.5 grams of weed a day as well. So that was like a £200 a week habit. I was selling bud, so there was all sorts of shit going on."*

Mark: "*Were you even breaking even with it?"*

Aaron: *"I was just, but I was smoking that much myself … I was working on top of that. … it was just so much stress … I had people … constantly … ringing me up, like, 'Where's my money? We're gonna come to your house' … stuff like that. And then I had two jobs to worry about. I had all the money to worry about. I had my own habit to worry about".*

His inability to manage his addiction resulted in the loss of a job, leading to a suicide attempt and sectioning (see 9.1).

Frank's SUD left him at risk from violent individuals involved in the illicit drug market. He recalls a time when he came under severe physical harm from other people because of his drug abuse.

Frank*: "… I was just getting mashed up. And then … it come to a head I ended up in a flat in Greenfield. And I've started again, intoxicated on drink, started with people. This guy … he's gone, come back 15 minutes later with five other lads. They all had, you know, rounders bats, like little cricket bats … Aside fighting, I didn't have a chance, and I got hit in back of the head and went down on one knee, got back up … and then one of them hit me in the forehead with*

it and that were it, I were out. And then I could sort of like remember … being on floor, with my hands over my head … feel the thuds and they've gone and come back with knives and stabbed me … I had to climb out a window and … it were tragically comical … when I look back. Because I was covered in blood … all my face and my heads all swollen up and there's me having to climb out this bloody window. A first-floor window onto an outside roof. Get on to the drainpipe and obviously, I can't see. I'm nearly blind in one eye, and I fell off a bloody drainpipe and landed on me back in my garden and just shuffled away, mate. Dripping blood and stuff … I mean I can laugh about it now"

Oscar's habitual drinking began to impact his physical capital. Having abused alcohol for over five years he began to have health concerns.

Oscar: "*Yeah, I started having some bowel issues round about 2017, so I went to the doctors, they did an endo scopey"*

Mark: *"An Endoscopy?"*

Oscar: *"Endoscopy, yeah. Erm, [they] couldn't find anything … So, I thought that's great, maybe there isn't anything wrong with me, I can carry on drinking. Obviously, I knew there was that correlation …, because when I stopped drinking, funnily enough, I didn't have any bowel issues."*

Mark: *"How much were you drinking a day?"*

Oscar: *"At least a litre of Gin, minimum"*

Mark: *"For … how many years?"*

Oscar: *"From probably 2012 to most of 2017. Prior to that, probably about half a litre …"*

Mark: *“Was your liver not getting battered?”*

Oscar: *“I had a liver function test, and I was just below the danger zone”*

Mark: *“Was you?”*

Oscar: “*Yeah, I think it measured 36 or 38”*

This proved a sobering experience for Oscar and marked the start of a turning point in his life trajectory.

The narratives of participants highlight the impact of SUD on their lives. As they navigated through the cycle of addiction their capital stocks depleted. The respite gained from substances eroded any potential escape as they became gripped by the substances' hold. The autonomous act of using drugs eventually led to decreased autonomy, leaving them vulnerable and trapped in downward spirals. These experiences underscore the important role of autonomy in RC. Loss of autonomy, whether through addiction, abusive relationships, or financial instability perpetuates destructive behaviours, but also restricts individuals from seeking support and making positive changes. However, it is through beginning to claim their autonomy by seeking help and confronting their struggles that they begin their journey of building RC.

Chapter 9: Accessing New Fields

In chapter 8, I explored the life stories of participants, uncovering tales of poverty, violence, trauma, instability, mental health, and addiction. This chapter builds upon those stories of capital depletion by examining experiences of rock bottom, highlighting how these experiences act as catalysts for change (9.1). The focus then shifts to participants' experiences of exercise and MMA before starting the intervention (9.2). As a result, physical capital is highlighted, and the scene is set for the next chapter, where the impact of the MMA intervention is examined.

9.1 Towards a New Beginning: Turning Points and Recovery Trajectory

Frank: *"… and I just thought to myself, now Frank, you've got to get a grip of this…"*

In SUD research, the journey towards recovery is often highlighted by critical moments referred to as 'rock bottom' (Ballaert et al, 2022) or 'turning points' (Granfield & Cloud, 1999). Both refer to critical life events that involve difficult experiences. Granfield & Cloud (1999), in their work on overcoming addiction without traditional forms of treatment (e.g. rehab), describe these events as crucial for identity transformation, thus prompting a desire to change habitus. This view acknowledges the complexity of addiction, recognising that not all critical life events trigger turning points, with individual and contextual factors playing an important role (Teruya & Hser, 2010), as seen in cases of homelessness (3.4). However, I discovered that participants' desire

to change was a complex process, often triggered by various difficulties characterised by a significant loss of autonomy.

With one parent deceased and the other withdrawing from his parental responsibilities (8.1), Stacey suffered a complete loss of social capital and was homeless. She describes it as *"like we lost both parents in the same year"*. She did not possess the relevant human capital to seek housing support, leaving her to sleep in a local park. Whilst this homelessness episode was indicative of Stacey experiencing rock bottom, further experiences followed. The trauma from both her mother's murder, being kicked out by her father, and the abuse from various partners, left Stacey vulnerable to mental breakdowns (8.4). She described the context of one of her breakdowns when her ex-partner contacted her son and made allegations against her.

> **Stacey:** *"And erm, he (ex-partner) was saying, 'Is it true that your mum fucked a dog? Is it true that your mum give hersen an abortion in kitchen' … just loads of nasty stuff like that. And I'm like, what the fuck are they saying stuff like that to me son for. And that just got me going and that triggered everything else off that's happened and that's how I ended up like that."*
>
> **Mark:** *"That's horrible that"*
>
> **Stacey:** *"Yeah, he's me son … it were them that made me have a breakdown in the first place doing nout but fucking bully me and torment me. And then I lost it and just flipped out"*

Shortly after this rock-bottom experience, she met her now ex-partner who introduced her to heroin (8.5). Stacey's past trauma served as a structural factor influencing her mental health. It also shaped her coping mechanisms (human capital) and susceptibility to addiction. Whilst encouraged to use heroin by her ex-partner, Stacey's

decision to use it to alleviate her mental health represents an individual action. However, while providing initial relief, it ultimately led to addiction, which highlights the consequences of individual choices in response to structural factors. Whilst the initial use may be seen as a way of exerting autonomy, her subsequent addiction highlights the complexity of choices in the context of addiction. Before heroin the only substance Stacey had issues with was alcohol. She stigmatised heroin users. The shock of now finding herself addicted to a drug she condemned, and her continued mental decline triggered a turning point. As a result, she sought help for her addiction and, in turn, her past traumas.

Craig's rock bottom was characterised by an experience of homelessness at a young age. After the death of his father and the breakdown of his family (8.2), Craig was left homeless. The sudden erosion of his social capital left him rough-sleeping at the age of 24.

> **Mark**: *"Did you actually sleep on the streets or were you sofa surfing, as you said, at various friends and family?"*
>
> **Craig**: *"I was sofa surfing, but one night in particular, before I came to Sheffield … I slept at … the back of the Horizon Stadium (sports stadium)"*
>
> **Mark***: "Oh really"*
>
> **Craig**: *"In Pilton, yeah. I put two chairs together and put some cardboard boxes there and just slept for a couple of hours on the chairs"*
>
> **…**
>
> **Craig: "***… But, the reason I stopped there was because I used to go there when I was younger"*

Mark: *"Right, yeah"*

Craig: *"So, it was a sports facility"*

Mark: *"Yeah, yeah"*

Craig: *"So, I knew like when I went there, I knew no one was going to be about."*

Mark: *"Yeah, you knew the area"*

Craig: *"Yeah, I knew the area and I knew no one would be around there and I knew that I could go out the back of there and no one would come around."*

Mark: *"Yeah, no one is going to bother you. Yeah, and … had you planned before that day that you were potentially going to be sleeping rough on the streets? Or was it literally until only that day that you realised, I've got nowhere to stay?"*

Craig: *"Just that day, that moment at the gates … knowing that my mum had gone into hospital and that the family had … just … fallen apart, and I had no independence. I had no close family members. And I had no … key to get into the property. So, I was just virtually standing at the gate … looking where you used to be … all your life … 24 years at that home where you've … grown up, and then suddenly you are put outside. The only thing that you can do is approach family and friends … or go it by yourself."*

Craig's statement that he had *"no independence"* suggests a lack of autonomy in his circumstances. He lacked any structural resources for housing, saying that he had *"no close family members"* left whom he could use for support. Whilst he wandered the streets, he had no choice but to sleep at a place which provided him some familiarity

and safety. He spent several nights sleeping rough before seeking help and being offered a place at a hostel.

> **Craig**: *"…I had phoned a place called the Roadhouse Project. So, I phoned Roadhouse Project and I said … I'd like to come … because I am homeless … do you have any accommodation that you can put me up in … and get me some support. So, they said there was a hostel in Sheffield that if I came there that morning, I would have … some help and some support. So, after walking to Sheffield city centre, because I had no funds or no money … they said if I got there at Roadhouse Project by a certain time they would be able to take me down there and put accommodation over my head."*

Despite structural constraints, Craig exercised autonomy in deciding to seek shelter and accept support. This resulted in him securing a place within a hostel where he was provided with a support worker. Whilst the support he received from the hostel was beneficial and allowed Craig to move into independent accommodation and enter work, he would struggle later in life due to his autism which was undiagnosed for most of his adult life (8.4). This restricted his autonomy and impacted his ability to pay bills (human capital) and maintain stable housing, leading to another experience of homelessness. Craig hit rock bottom again and found himself living in a tent behind the train station.

> **Mark**: *"You slept in a tent for 6 months?"*
>
> **Craig**: "*Yeah, I slept in the tent for 6 months and then going to work every day"*
>
> **Mark**: *"Wow. How did you manage to do all that? Were you actually managing to get a good level of sleep?"*

Craig: "*… sleep was very minimum because … I would go to work at 11 o'clock. I would cycle to work … put the tent [and] put all my things away, get changed, do a 10-hour shift at work … cycle back to [the] train station, sit in the train station and then just imagine that I am a customer waiting, and then no one around … [would] know anything different."*

Mark: "*No"*

Craig: *"So, I would put the bike away in the bike hub in the train station so I would secure it in there. I would get the tent and get the sleeping [bag], and I would pretend and play out that I was … a customer. Like I was going to … somewhere up north or somewhere down south. So, I would pretend that I was a customer, wait until the train station shut, and then get my tent and sleeping bag and go behind the train station. Go up the steps at Sheffield Station and then pitch my tent on there. But every night you can't initially get any sleep because of the noises. Any initial noise would … cause you anxiety and it would send it sky high. Because you're not knowing what it was … So, from 11 o'clock to 6 o'clock you would be awake because you would be quite high and on alert. So, after that … come 6 o'clock it would be daylight, so you would know that if you try and get some sleep at 6 o'clock then people would be walking around for … reasons that you would be able to associate with"*

Mark: "*Like going to work?"*

Craig: *"Yeah because you wouldn't think [that at] 1, 2, 3 o'clock in the morning … Who's knocking around at [that] time, and what are they actually doing out there. So, you couldn't get any sleep"*

Mark: "*And you did that for 6 months?"*

Craig: "*I did that for 6 months, yeah"*

By working Craig had some economic capital and was able to use his money to maintain a form of agency and livelihood while he was homeless. He described things he would do so that he could keep up appearances.

> **Craig**: *"I began to use Delta Gym, so I could shower there. So, I began to use the facilities around Sheffield … that would work for me. So, I joined Delta Gym so I could shower there and go the gym there and exercise on my day off. Then I would go out on a bike ride on my day off. Then I joined … Movieview so that I could go to the cinema there."*

Craig's methods for survival were impressive but unsustainable. With his capital stocks diminished one setback could cause a complete collapse. His lifestyle was threatening his job security, and during this rock bottom experience, he sought support from Shelter.

> **Craig**: *"What went on from Shelter is that when I was working … and I approached Shelter … they said to me … 'you're working Craig so … within two months, you can get yourself out [of] this problem because you have got an income. Like we don't have any … obligation … to rehouse you. You're not in any physical danger or any harm or anything, basically … you've got a tent, you've got a sleeping bag, and you've got somewhere to go in the daytime so there is no obligation. And it was cos when I went to Shelter, and … explained … my situation and circumstances and … because of all the debt that I was in with the council they said that … was one of the reasons why they couldn't rehouse me. Because of the council debt and the rent. So, when I approached Shelter and told them that I was working they [started contact] with the council*

and said … the chances of Craig losing his job further down the line in the near future, because of his circumstances, it's going to be very difficult for him to maintain it over a longer period of time even though he has done what he has done."

Craig was supported by Shelter and given a property. It was through them that he was referred to MMA.

For participants like Frank and Steve, the intersection of addiction with homelessness amplified their problems. Ayano et al's (2019) meta-analysis highlights the structural issues of homelessness as a risk factor for suicide attempts and suicidal thoughts. Coupled with Poorolajal et al's (2016) meta-analysis, which found a strong association between SUD and suicide, the experiences of participants can be contextualised through the structural challenges that exacerbate their situations. Attempting suicide is indicative of a critical life event surrounded by intense mental turmoil and may represent a final attempt to exert control over one's life. However, it is the lack of autonomy in the decision-making process which characterises participants' experiences. Frank and Steve recall their experiences of suicide during periods of homelessness. Frank describes how he lacked the courage to commit suicide and instead sought others to do it for him.

Mark: *"… I seem to recall you telling me that you experienced quite a bit of violence on the streets as well"*

Frank*: "I did, yeah … because of me … guilt and me shame and stuff. … I never had the courage to kill myself. So, I was always looking for other people to do it, you know, picking fights with gangs and men and stuff. And all I ended*

up doing was getting kicked around Leeds City Centre all the time. No one could land that final blow. Or as I called it, a lucky blow … that would end it all."

Frank reflects on his behaviour saying, *"I've actively tried to kill myself to some degree or another slowly every day"* through his SUD, adding, *"unconsciously I was killing myself slowly, wasn't I? You know, my actions and stuff, what I was doing to my myself"*. Like Frank, Steve's interaction with suicide came when he was experiencing homelessness.

Steve: *"I ended up in a hostel for … 7 or 8 months. Nervous breakdown. And this is all because I had just ran away from myself. And I had a moment where I had wrote a letter and I was gonna, erm, I was gonna kill myself … I had fucking had enough. There was no way out for me, there was no way out. And I hit that point. And … from that moment that I decided I was going to do that, I let go of everything. Everything. … Stopped trying, stopped caring. And it's easy to just decide that you don't want to but it's not easy to turn that back on, and that's the fucking grave mistake that I made. … I planned to do it and … I got a call one day and this is … days away from when I was gonna do it. I had decided that I was gonna do it on this one weekend and that I was gonna do it in the hostel. I'd had enough. And my mate called me and told me that … a friend of ours had committed suicide … morphine overdose. And I went round to go and see them, and everybody was devastated. Everybody was … just a fucking mess, and I couldn't help anybody. I just felt guilty. And I realised how fucking far I'd gone"*

Mark: *"What did you feel guilty about?"*

Steve: *"Because I was gonna do It and I'm now seeing"*

Mark: *"The impacts?"*

Steve: *"Yeah, it was such a weird thing … it's the kind of shit you see in movies when summet happens and you think that would never happen, but it did. … And I remember feeling angry at this guy for doing it because he had robbed me of my place."*

Mark: *"It robbed you of your place?"*

Steve: *"It robbed me. That's … how fucking selfish and far gone I had got at that point."*

Mark: *"So, it had robbed you from doing it yourself?"*

Steve: *"Yeah … he'd got in there and he'd done it [first]. That's how bad I had got. That's how self-absorbed and fucking just … lost and unreachable that I was. Because I remember sitting there and feeling angry and that's fucking horrible. You can't look at yourself. And you see all these people devastated and you think, this is how they'd be if it had been me, you know, I could of done this to everyone. So … it's a real fucking tough thing and I couldn't do it then. And I had planned for it, and I had … let everything go and I were gonna do it and then that happened. And now I look back at it and I think, like, that guy fucking saved me. It saved me man, it saved me"*

Mark: "*It's strange how your perspective can change so much"*

Steve: *"Its fucked! It saved me, bro".*

Steve's experience of suicide signalled a turning point. Individuals who have been able to overcome addictions in the form of any excessive behaviours, including drugs, often

recall turning point experiences (Koski-Jännes, 1989). The transforming moment that Steve describes is what Denzin (1989, p.15) calls 'life epiphanies'.

Having chased death, it was surprising to learn that Frank's impetus for change came from a road accident when intoxicated.

> **Mark**: *"… I mean correct me if I'm wrong, so was there a certain point when you were like I need to start not using?"*
>
> **Frank**: *"Yeah, yeah"*
>
> **Mark**: *"How longs It took you from that initial thought process to being at the point where you are today?"*
>
> **Frank**: *"It took about 18 months, but it started in November 2019. I were inebriated, intoxicated on alcohol and prescription tablets and I staggered into a road … and got run over by a bus … So, my right foot, every bone in me right foot got crushed. It tore my skin like tissue paper. I come round on [the] operating table … looked down... mate my foot. I felt like crying, but I didn't cry. It was all black and all my toes were fucked … and then I passed out again."*
>
> **Mark**: *"What, from the sight?"*
>
> **Frank**: *"Yeah, from the sight mate … Woke up again on the ward and I just thought to myself, now Frank, you've got to get a grip of this … I was lucky … it could have … run over my body or my head … I was lucky. And I were living on the street at that time, I were homeless. So, from that … a positive come out of it, because from the hospital I get sent to a homeless hostel. That were November 2019. I spent Christmas and the beginning of 2020 in the hostel, then this charity got me a little flat and it was lovely. I ascribe … [that] lockdown*

has helped me save my life, because … I were in my own flat, I wasn't socialising with anybody, I cut everybody out of my life, and I was just trying to get my strength back. During that time, I was going to a drug and alcohol service in Leeds … with the mindset [of] going into rehab at some point. So, all through 2020 I stopped everything … but the first thing I stopped when I come out of hospital was obviously heroin and crack abuse. Then … in October, drink, then prescription drugs, and by the time December 2020 came along … I was only on methadone and giving clean samples and that. And then I got the phone call from the rehab worker, Laura, that I were going into recovery on the 6th of April 2021. You know what I mean, so it took a massive trauma getting run over by a bus … to switch on, but I think even before that, I was sort of … getting tired of it all"

Like Frank, Eva's turning point was when she was hospitalised. Her rock bottom was characterised by accelerated polysubstance misuse.

Mark*: "What switched?"*

Eva*: "… my use was getting really bad in the summer, and I ended up in such a fucking mess. Oh my God, I ended up in such a mess … All of that year before October, I was on my year out from Uni … and trying to get my life together, repairing after the relationship, but I think that kind of took priority over like my substance use … like just trying to get back my life before. … So, I was still using and that and then it got to … October … I'd managed to get back to uni … [I] had actually completed the work. I was going to be back on to 3rd year … and … honestly, like 3 days before coming back to the uni, I ended up in … A&E. I was … in such a mess on … Ket, Coke, Booze, Weed, everything. And*

I think I was just really angry at myself … I've really fucked up here… I've done all this leg work to get back to uni. I'm gonna go into uni and I'm gonna be off my nut … not getting any work done. And then also, so the first day that I was actually … going to be abstinent I … found out my mum had cancer that day. So that was a bit intense. But again, I was like the only way that I can support my family is if I am sober … I can't just bury my head in the sand with this one … need to have my shit together.

Aaron also struggled with polysubstance addiction and poor mental health. He had been admitted to the hospital multiple times due to mental health issues (8.4), with one admission coinciding with chaotic substance abuse and a suicide attempt.

Aaron: *"I tried to kill myself like maybe … three times. Erm, and I think my parents found me asleep outside on my patio. It was summer, so it was quite warm. I was asleep … face down on the patio holding a spliff … in my hands after taking a load of Xanax. And then they called an ambulance, and I refused to get in and then they called the police. And then I sort of had … a fight with these two police officers and then they obviously handcuffed me. Sectioned me. I had no idea where I was going and [they] took me to hospital"*

Whilst each admission into the hospital was a substantial life event for Aaron, they did not trigger an immediate change in his addiction. His willingness to address his SUD came from an event that scared him and external pressure from his family.

Aaron: *"So, it was … a high security … ward. And I think when I got out of that, they were like, right, you need to go to Sidney Street (recovery service). But at that point, I didn't really want to quit that much. Erm, but even like 2-3 years ago … … I had a thing where because I would take sleeping tablets, muscle*

relaxants, and Xanax, and a lot of this opiate, Tapentadol, and I fell asleep, stood up at the top of my stairs, and fell down the stairs backwards. … At the time, I just woke up and was just like, right I'm going to eat some crisps, like I didn't care"

Mark: *"Could you just not feel anything because of the painkillers?"*

Aaron: *"Yeah … I didn't really think and then I didn't even remember till about halfway through the next day that I'd done it. And then it … scared me. So, it was around then I started going to … groups like Narcotics Anonymous …"*

This scenario, where Aaron almost ended up with a serious injury, was different to his previous suicide attempts as it was unintentional. This frightened him and he started to consider his substance abuse. With his economic capital low, he could no longer afford rent and moved back in with his parents. His parents were not accepting of his drug abuse and had previously encouraged him into recovery. When he returned to live with them, they gave him an ultimatum: stop his substance abuse and enter treatment or be kicked out and made homeless. It took an accumulation of these events for Aaron to want to change.

Oscar's SUD severely depleted his capital stocks (8.5). His loss of control resulted in a suicide attempt which he disclosed before we started an MMA class.

As everyone was getting ready, I went over to Liam who was watching a video on his phone. "I can't watch that" he said. Liam explained that it was someone filming themselves via GoPro climbing a Ferriss Wheel. Liam admitted he had a fear of heights, and our conversation drew the attention of Oscar who had just stepped onto the mat. "What's that?" he asked. Liam then explained to him the video he had watched. "I've done stuff like that" Oscar claimed, adding "I've got

a video where I've done something similar but recording on my phone". Oscar then proceeded to get Liam to watch the video he was referring to. In the video, you see the sites of Sheffield from up high. Oscar is at the top of high-rise flats. At first, it's scenic. He is simply showing off the extraordinary view of Sheffield City Centre from the top of the building. However, he then crosses the barrier and starts to walk along the very edge of the building. The camera points to his feet which are walking along the edge as if he is making his way across a tightrope. There isn't much hesitation in his steps. A gust of wind would have blown him off. At this point, Liam had to walk away and stop watching. "Fucking hell lad, you could've killed yourself" I said. Owen replied, "I know, that's why I did it. I thought to myself, if I fall then, it means I'm meant to be dead, if I don't then I'm meant to live". He added, "I keep it up though, as a reminder that I'm meant to be alive still".

Oscar let fate decide whether he was to live or die that day, letting the speed of the wind determine whether he fell from the top of the high-rise flats. Oscar admits that this occurred during the height of his addiction when he was experiencing health complications (8.5). Left feeling helpless, Oscar's suicide attempt is characteristic of someone with a lack of autonomy. So much so that he could not even be in control of whether he was to live or die.

Experiences of rock bottom have been considered and shown. These experiences vary from extreme social exclusion resulting in homelessness, to severe depletion of capital stocks characterised by SUD and suicide. Characteristic of these experiences is a removal of autonomy that can be contextualised through a structure vs action lens. They are often motivators for change. Whilst there are some commonalities in the impetus for change, there are also substantial differences. There is no standardised

route into recovery and the change in mindset and realisation that facilitates decisions to make change is variable. The events described in this section tended to be the final pieces of a participant's life story before they entered the field of MMA.

9.2 Before the Fight: Previous Exercise Experiences and MMA Engagement

Stacey: *"Cos nowt like this has ever been offered to me before."*

Interest in PA in SUD and homelessness literature is a common finding (4.3). However, the complexities of homeless life and heavy substance abuse restrict the ability to engage in structured exercise (Sherry, 2010; Neale et al, 2012). All participants, except Oscar, disclosed an interest in MMA. This interest was born through past engagement with martial arts or a general interest in MMA. Craig had never engaged in combat sports. Yet, through media consumption, he had developed an interest.

> **Craig**: *"I've always been interested in sports and activities like running and cycling and I've always … watched the boxing and … the UFC on TV"*

When it came to participating in sports, Craig mainly cycled.

> **Craig**: *"I used to cycle about … 150 miles a week. On a road bike, … that was me exercise."*

Being part of a team, exercising in a group, or any group activities were alien to Craig. Before starting MMA, he had been physically inactive for an extended period. This negatively impacted his physical capital.

Craig: *"No … I wasn't doing anything physically … I was just basically … staying at home, doing day-to-day… things like having … something to eat and … watching television, playing video games. So, it was just … individual things"*

Craig had good physical capital when he cycled. However, this had been lost due to prolonged physical and social isolation. That said, he came to the classes with an awareness of the benefits of improving his physical capital.

Craig: *"… you can take medication and speak … [to a] support worker or therapist, but then if you don't contribute something physical into the equation and then find the balance with it … it's very difficult to get out of that situation…"*

Stacey also had no previous combat sports experience but held an interest.

Mark: "*… So how come it was the MMA classes that you thought, go on, I'll give that a go?"*

Stacey: "*Well, when I were younger … if things hadn't have happened that fucked me up I'd have probably wanted to do something like that."*

Mark: *"Would you?"*

Stacey: "*But because of circumstances I [have] just been a fuck up all my life"*

…

Stacey: *"I really think that if my mum hadn't have been killed the way she were killed, I really think I would've gone into MMA, and gym and that. I wanted to when I was younger, but it was like young girls don't do things like that"*

Stacey's traumatic past (Chapter 8) and gender proved to be barriers to MMA before engaging with our sessions. She said that *"nout like this has even been offered to me*

before" and that it was a *"miracle"* that she saw it advertised at the referral agency she was engaged with. Before starting the classes, Stacey had a sedentary lifestyle, meaning she had poor physical capital. This was a result of her PTSD, addiction, and the death of her dog (7.1.1). It had been this way for almost a year.

> **Mark**: *"…so back onto the exercise. So, then say about 6 months prior to coming and doing MMA then, or maybe even a year prior, any exercise?"*
>
> **Stacey**: *"Nothing"*
>
> **Mark**: *"Other than your dog walking? Because he would have still been alive?"*
>
> **Stacey**: "*Dougie died in January. So, it's nearly been a year."*

No participants indicated that they had been offered MMA as an activity within the recovery landscape. Jason said, *"If I had been offered it, I don't remember cos it wasn't put across in the right way"*. Most participants were new to the sport. However, Finley, Frank, Desmond, Dave, and Aaron, had previous experience with combat sports during youth. The type of martial art engaged with varied, with boxing common. Desmond, Dave, and Aaron had experience with boxing as teenagers.

> **Desmond**: *"I did uniform public services at school and ended up doing a bit of boxing through that."*
>
> …
>
> **Dave**: *"Yeah, I've done a bit boxing before."*
>
> **…**
>
> **Mark**: *"So, you've done a bit of boxing?"*
>
> **Aaron**: "*Yeah"*

Mark: "*How much boxing have you done when you were a teenager?"*

Aaron: *"A fair amount, to be honest. A fair amount, but not loads. Not loads, but enough."*

While Desmond, Dave, and Aaron had engaged in boxing in the past, their involvement was minimal. None had trained recently, and all began the intervention following years of entrenched substance abuse and sedentary behaviour, negatively affecting their physical capital.

Frank had also boxed as a youth and had engaged in some BJJ training.

Frank: *"No, I'd done jiu-jitsu years ago when I was a kid and then a bit of boxing and stuff, but never MMA"*

Before starting MMA, Frank was hospitalised after being hit by a bus and this severely damaged his physical capital (9.1). Other martial arts engaged with as a youth included Judo, Taekwondo, and Karate.

Finley: *"So, I've always been really sort of into sports … so swimming was sort of my go-to… and I did a little bit of martial arts as well. So, I did karate when I was a kid."*

His engagement with Karate lasted for several years. However, Finley's participation in sports dropped off as he reached high school. He attributes this to various struggles he experienced due to his gender identity (8.2 and 8.4).

Finely: *"By the time I reached … middle of high school, that's sort of where things just dropped off. Like, I stopped sort of engaging and things like that."*

Mark: *"Why do you think that was?"*

Finley: *"… I don't know, I think it was a lot of … societal pressure in terms of, sorry not societal pressure, but like, well, class pressures … like being singled out for being involved in things that not everyone was being involved in, things like … bullying, things like that. But also … with my gender as well, like swimming, it became very, very difficult to sort of engage … because obviously, you know, leaves nothing to the imagination when you go swimming."*

The two years before Finley began MMA his mental health was poor, and he retreated from any form of PA. His medication caused weight gain, negatively impacting his physical capital, which damaged his self-esteem and mental health (human capital).

Finley: *"So, the anti-psychotic … one of the side effects … quite damagingly, is intense weight gain. So, I put 30 kilograms on in like 2 years. It was bad"*

This coincided with issues in his legs which proved to be a barrier to PA.

Finley: *"Yeah, and at the same time my legs started being unable to work ((laughing))."*

Mark: "*Oh yeah you have an issue with your legs, haven't you?"*

Finley: *"Yeah, so it was a combination of that. I ended up putting on a lot of weight and then my self-esteem took a hit"*

What Finely was experiencing in his legs is called Compartment Syndrome, a condition that restricts blood flow causing pain. Low physical capital manifested in compartment syndrome and weight gain, which alongside his mental health impacted his human capital. He describes his fitness level before the MMA classes as *"not good, not good at all"*.

It was rare that participants had engaged in combat sports in adulthood; however, Steve, Jason, and Anthony had. Steve had done Muay Thai.

> **Steve**: *"Yeah, I did Muay-Thai for a bit"*

He was passionate about his training and had previous high physical capital, as he describes his past self as *"really fit"*. However, barriers to do with chronic pain interfered (8.4).

> **Steve**: *"I was a big fucking advocate of fitness, and It was a big way to deal with a lot of stress and frustration in life … but things happen, i.e. chronic pain when I hit 24/25 and that took a lot of dealing with and I wasn't the most accepting person of it"*

When asked about his fitness levels before MMA he said "*terrible".* When engaging with recovery services Steve says that he *"always said to them you need to fucking do … an MMA thing, it would be great"*. Despite disengaging from Muay Thai and other exercise, Steve remained motivated to return when an opportunity arose. This can be understood as a form of human capital as it demonstrates a conceptual understanding of using exercise as a tool for recovery.

Jason said he had *"always enjoyed martial arts"* and had previously worked as a personal trainer and gym manager. As a personal trainer, he would incorporate MMA training with his clients telling me, *"I always did pad work with my clients to build that feeling of communication and trust"*. Through his job, he was embedded into the field of exercise and had good physical capital. However, leaving work due to his addiction (8.5) meant that he had to remove himself from PA.

> **Mark**: *"So, before you went into doing the MMA classes were you doing any exercise?"*

Jason: "*I was only doing … I was trying to do a little bit of running on and off."*

Whilst participants had some familiarity with martial arts, these experiences were limited and often occurred in youth. Due to living within chaotic fields (Chapter 8), their physical capital was low before starting MMA. However, some participants had previously held good physical capital because of past PA, and most expressed an interest in MMA.

Combining the content of this chapter with Chapter 8 and viewing RC as a whole, it becomes evident that participants' RC was low before the intervention. Focusing specifically on physical capital, participants poor physical health and lack of exercise significantly affected their overall well-being. Addressing and improving physical capital is therefore a critical component in enhancing RC. Through a detailed examination of participants' life stories, it becomes apparent how their experiences align with the RRCM framework. This alignment highlights the importance of addressing and strengthening RC to support their recovery journey and enable growth and human flourishing (Best & Ivers, 2022).

Chapter 10: The Field of Combat: The Power of MMA

This chapter explores the MMA intervention and the impacts of the sessions on participants' RC. From herein, the BARC data, outlined in 7.3, will be signposted. Individual BARC scores from key participants (7.1) will be drawn upon to visualise developments in RC.

Following an exploration of my own and the participants' experience of entering the MMA field (10.1), discussions of RC development occur across sections 10.2, 10.3 and 10.4. Section 10.5 synthesises these elements, focusing on capital accumulation and habitus transformation.

10.1 The Journey Begins: Entering the MMA Field

***Steve**: "...it's the fucking fear of the unknown and when you come into a new environment, everything's unknown*"

During interviews, I asked participants to describe their first experience of MMA. I enjoyed listening to their stories as they resonated with my own. Having never stepped foot into an MMA gym before beginning this research, my first experience was memorable.

> *"I'm outside the gym 15 minutes before the session is due to start. I was told to arrive early so I could fill in a sign-up form. The concoction of excitement and anxiety is starting to reach its peak. Exiting my car, I began my journey down the dimly lit alleyway towards the gym. The raucous noise coming from the garage*

situated directly opposite the entrance soothed my nerves as it drowned out any thoughts. The white door with 'Sheffield Shootfighters' written on it would be easily missed if you weren't already familiar with its location. I opened the door, and I was immediately greeted by steep wooden stairs. Each step I take echoes through the building. The emotions that I felt in the car have disappeared. I'm here now, there is no turning back. It would be unfair to say the place had a bad smell, but there is a staleness in the air. Most likely a product of the classes that I was soon to be a part of. As I got to the top of the stairs, I was greeted by the owner, Sam, who was friendly and passed me the sign-up form. I noticed how clean and tidy the gym is. Gloves are laid out neatly in one corner, pads in the other. A small sitting area is overshadowed by a large area dedicated to mats on the floor and layered on the walls. At the back of the gym, a punch bag had been stacked tidily away on the side. More people arrived as I finished the form. I returned the form to Sam who quickly ran me through one of the most important rules of the gym – no shoes on the mat. I removed my shoes and made my way onto the mat with the others. There was the odd small talk between people, but the majority were either in silence, shadowboxing, wrapping their hands, or stretching. I decided stretching is the most suitable past time for me.

The eerie silence when I first entered the gym was replaced as more people arrived. Music entered the scene through crisp speakers. Sam came onto the mat and shouted, "Right everyone start jogging around!". Everyone began to run in a rectangle on the outside of the mat whilst Sam called out instructions. "Straight punches, uppercuts, punch down, discos, high knees, high skips". The final orders from the warm-up are sets of sprints. We were then instructed to spread out so that we could stretch. It is the most intense stretching routine I had

have ever done. I struggled to keep my balance at times. Observing some of the others, I recognised that my flexibility is poor.

Sam then headed towards the sound system and lowered the music. He asked us to "partner up" and people started getting into pairs. Some people immediately went to a particular person, and other people awkwardly fluttered around waiting to make eye contact with someone who was looking for a partner. The flutterers gave tacit signals that they were looking for a partner and quite quickly everyone was partnered up. I eventually secured a partner. They gave off the signs of being a regular. Hands wrapped, rash guard, and wearing branded Progress Jiu-Jitsu clothing. I was the contrast. We were then told to start shadowboxing. I knew what shadowboxing is, I had seen it, but I had never done it. I spent the first few minutes with my hands up dancing around in my 'fighting stance'. My partner threw a variety of combinations at me, confidently missing my face. I gathered the confidence to start punching back. Mainly in the form of a jab[12]. We do this for a couple of 3-minute rounds and are encouraged to throw kicks and even try and feint takedowns. The timer buzzed to signal the end of the round. My partner nodded at me and thanked me. After a short break, we were told to partner up again and for one to grab gloves and the other to get pads. This time I found myself partnered up with someone not so experienced. We quickly exchanged words, asking who wanted to do what first. I offered to hold the pads and went and collected a pair. As I was putting the pads on, I asked my new partner if they had been coming long. They'd been training for a couple of months, and I set their expectations by telling them it was my first class. Sam ran us through a combination he wanted us to practice. The timer then started, and we began the

[12] Straight punch thrown with the lead fist (ESPN, 2023)

3-minute round. We spent most of the first 3-minute round correcting how I should be holding the pads. My ability on the pads quickly improved and we managed to get a good few rounds in. By the time we approached the final round of pad work, I was destroyed. I thought I was fit, but this was the most demanding thing that I have ever done. I noticed the clock at this point and saw that there were 15 minutes of the class left. "Right, everyone, we'll finish with some sparring". I did not expect to hear this. I was exhausted. However, there was no fear from me. I don't know whether this was because of the adrenaline, or that I was simply too tired to produce emotion. I grabbed one of the head guards and prepared for what was to come. The timer started and I and the same partner I had been on the pads with touched gloves and began to spar. My partner began to hit me with straight jabs to the face. I tried to throw one back in response and missed. He hit me in the stomach, I lowered my hands, and he landed a punch on my temple. My confidence grew throughout the spar, but I was out boxed completely. The round felt much longer than 3 minutes. "Change partners". Here we go again I thought. I worked my way through 3 different partners during the sparring. Understandably, everyone was better than me and I felt like the punching bag of the gym. The last person I sparred with went in for a takedown and managed to get me to the ground. The final buzzer then sounded and signalled the end of the session. My top was soaked in sweat and my partner at this point touched gloves and spent some time talking to me and giving me advice on what to do and how to improve. I gathered my stuff, thanked Sam, and made my way heavily down the stairs. The fresh air as I exited hit me and immediately began to cool me down. I arrived at my car, threw my stuff into the boot and slumped into the driver's seat."

Describing the feelings that are elicited when you step out of your comfort zone is difficult. Humans are inherently designed to react strongly to combat situations. The elevated heart rate, adrenaline pumping, and fight or flight responses provide some context, but you truly must experience it to understand. Although participants were not thrown to sharks, much like my first experience, MBC's MMA classes were still the real deal.

Frank had previous martial arts experience (9.2). I asked him to describe his emotions about entering the MMA intervention.

> **Frank**: *"…it's the unknown. A little bit of apprehension and stuff like that. My ego again, raising its ugly head. thinking I'm going to walk in and they're all going to be jiu-jitsu experts"*
>
> **Mark**: *"Is that what you're thinking?"*
>
> **Frank**: *"Yeah, yeah. I thought I was going to go in and there was going to be loads of experts. So, I'm psyching myself up. And I got in there and I thought, wow, completely different class, this is cool man*"

Frank's ego added pressure on him to perform. Jason, like Frank, had previously engaged in martial arts (9.2). He experienced emotions that mirrored Franks in his first class.

> **Jason**: *"… weirdly enough, with my history with martial arts, I probably felt more nervous than other people because I put pressure on myself. Automatically in your head, you think, oh you know, what if I start doing pad work and I'm not as good as I used to be."*

Despite previous exposure to the MMA field, both Frank and Jason found themselves uncomfortable stepping into our classes. Already having some “skin in the game"[13] will have benefitted them, but they were still entering into an unknown environment.

Most participants had little to no MMA experience. They disclosed heightened emotions before coming to a class. Finley, in an interview two years after he began MMA, recalled his first class.

> **Finley**: *“I was very anxious to … go, and I thought, what have I … got to lose. … Like, if I don’t like it then I don’t have to turn up again, but it was definitely a mental barrier and it wasn’t an area that I … knew. So, there was a lot of anxiety there, but … I think the first class was definitely anxiety provoking”*
>
> **Mark**: *“So, go on then, describe that first session from literally waiting for us to getting stuck in and what that was like for you?”*
>
> **Finley**: *“… I had quite a lot of anxiety. I remember, I got the bus and everything because I had to get two buses, and I didn’t want to be late, like, I hate being late anywhere it makes me feel really bad. And so … I turned up early and there was two guys out front and they were proper hench, proper built, and I’m there just like (looks shocked)”*
>
> **Mark**: *“What have you brought me to? (laughs)”*
>
> **Finley**: *“Exactly (laughs). Because they were just sort of stood outside … where the pillars are …. Like, I presume they would have been using the gym and I didn’t even know there was a gym there … I had these photos of the place, so*

[13] A term often used in various fields to highlight the importance of personal involvement

I found it … and I was like, thank god. And then we went in and everything and there was a new person there at the same time…"

Mark: *"Oh yeah, I remember it was Mary."*

Finley: *"Yeah, she only came to the one session"*

Mark: *"Yeah"*

Finley: *"But we were both new at the same time and that comforted me a little bit, knowing that I … wasn't the only … newcomer … That was … reassuring as well as kind of comforting because I think that those sorts of groups … you worry that people know each other already and that … you're the outsider … They might already have friendship groups and things like that, and it's just a bit awkward."*

Contributing to Finley's anxieties were concerns about him being misgendered (7.1.3).

Finley: *"I had not just the worries about performance … [I had] worries … within myself … People telling that, or knowing that I didn't have a flat chest or … having thoughts around … what's going on with this person … Like if things don't quite align with what you would expect … In my day-to-day life wearing a binder, like I am now, you see how it compresses. So, [in] my daily life, I don't get misgendered at all … like I am very much Cis[14] passing at this point, albeit a short man, but still (both laugh). So, I worried about being misgendered in that space because … you can't exercise in a compression binder because you can damage your ribs…"*

[14] Stands for Cisgender. It describes a person whose gender identity corresponds to their assigned sex at birth.

Finley's mental health and gender identity impacted his self-efficacy (human capital), and affected his social capital. He experienced social anxiety about being misgendered and was concerned about fitting into the group. This aligns with Dawes et al's (2019) research which found body image to be a barrier to attendance at an organised running group for homeless women (4.2). These feelings were alleviated when he met the group for the first time and realised he was not the only new participant. His concerns about being misgendered were also quickly eased

> **Finley**: *"… it's alleviated a lot just knowing that … you guys are so friendly and so … welcoming. I don't think … or at least I like to think, like [to] hope that … if it should be known to others that I am trans that there wouldn't be invasive questions, or comments, or judgements, or things like that."*

Considering the life histories of participants covered in Chapter 8, it is unsurprising that they experienced social anxiety due to reductions in social capital and prior social isolation before starting MMA. In recognition of this, the classes were designed to welcome new participants and integrate them into the group. New participants were introduced to everyone, and they were warmly greeted and made to feel comfortable. Finley's apprehension of joining a group and meeting new people was shared by others, such as Craig.

> **Craig**: *"When I first began, I was … wondering how it would be with … the people that I meet, yeah. … like what type of people there would be"*

Oscar also had social anxiety about the class, stating *"I was thinking … is there going to be anybody there that's going to be like a bit cocky."* Furthermore, negative connotations associated with MMA created anxiety towards engaging for the first time.

Craig: *“I felt apprehensive because it was something new. I didn't know what I was getting myself into. I didn't wanna get myself hurt because I’ve seen MMA, like as a sport on the TV, and I've known people who've done martial arts who I’ve grown up [with] and [I’ve] seen how … competitive it can get and how people can get hurt.”*

…

Finley: *“… I guess you presume that everyone might be at a certain level or … that it would be sort of … male-dominated, things like that.”*

For some participants, the emotions experienced before entering the gym heightened once they arrived and they required further effort and support to get involved.

It is important to consider the violence present in participants’ lives (8.3) and the impact this had on their emotions when first entering the MMA gym. When individuals who have experienced complex or developmental trauma are exposed to unsafe situations, they will likely feel anxiety or hypersensitivity which can increase the risk of re-traumatisation (McMahon et al, 2022). The MMA gym by its very nature encapsulates violence, yet controlled violence; therefore, having the potential to make participants feel unsafe. It was crucial that this was recognised, and steps put into place to reduce negative emotions and make participants feel safe (see 11.3). In addition, gender dynamics were considered due to participants' experiences of DA (8.3). When possible, participants were matched with the same gender. In instances where it was not possible for an individual to work with someone of the opposite gender due to their discomfort, which was determined through my rapport building with them before the class and with the referral agency (6.1), they would either partner with me or work in a group of three. However, it was rare opposite genders would not be comfortable

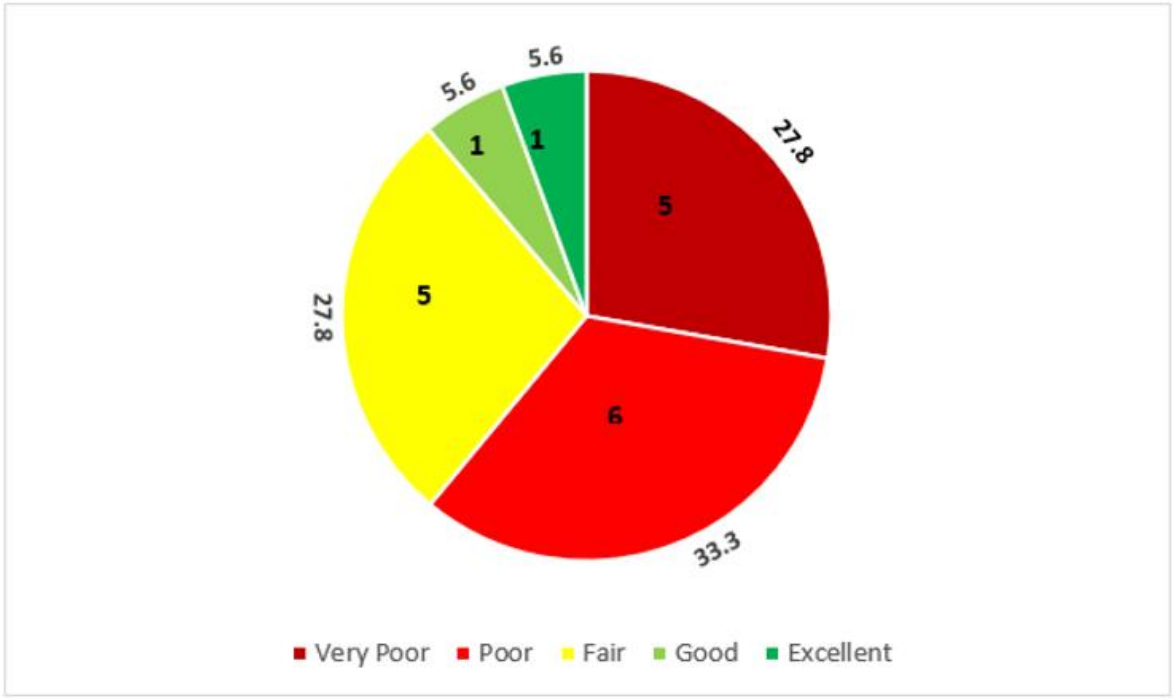
partnering up. Channon's (2012) and McNaughton's (2012) research into mixed-group combat sports proposes that mixed-gendered groups hold valuable potential for the subversion of patriarchal norms, possibly through gendered subjectivities being transformed through the experience of training with the opposite sex. This may hold some explanatory power for the positive impacts on participants who had experienced DA covered in subsequent sections.

When participants attended a class for the first time, they often needed a conversation with me in which I explained what the class would involve. In these conversations they would have many questions, mostly centred around their physical ability to participate. Dave expressed his concern about his physical capabilities and ability to take part in MMA.

> **Dave**: *"I felt nervous because, whereas I [wouldn't] say I had no level of fitness at all, I knew it was going to be quite challenging. Certainly, coming in and doing the warmups and everything."*

Low physical capital was common (9.2) and this resulted in participants' being concerned over their ability to take part in MMA. Physical capital was objectively measured through the BARC SPF question. Figure 6 breaks down the number of participants (%) and their physical capital score at the initial completion of the BARC.

Figure 6: *Pie Chart: Frequency of responses (%) to SPF question from initial BARC*



Individual participant scores of physical capital from initial BARC. Measured through SPF question. Scores indicate:

- Five (27.8%) Very Poor physical capital
- Six (33.3%) Poor physical capital
- Five (27.8%) Fair physical capital
- One (5.6%) Good physical capital
- One (5.6%) Excellent physical capital

Most participants scored their physical capital as 'Very Poor' (27.8%), 'Poor' (33.3%), or 'Fair' (27.8%). This objectively indicates that most began the intervention with low physical capital. Developments in these objective measurements of fitness were monitored through additional BARCs and substantiated in observations and interviews.

10.2 The Path to Progress: Building Capital

"…the first principle of recovery [from trauma] is the empowerment of the survivor."
(Herman, 2015, p. 133)

Making physical improvements was a goal often cited by participants in our early interactions. I predicted that improvements in physical capital and MMA skills (human capital) would be seen with consistent attendance in the classes. Within the context of the MMA classes, skill (human capital) and physical development (physical capital) went hand in hand. When participants were training MMA, they were improving both their MMA ability and fitness simultaneously. Table 7 (7.3) highlighted the significant positive impact that the MMA interventions had on physical capital. These developments, alongside others, are now explored further.

Each MMA session began with a warm-up including stretches (6.1). Occasionally, physical capital was so low that participants were unable to maintain a jog for the warm-up and would revert to a walk. Observing progress to being able to fully engage with the warm-up was indicative of improvements in physical capital. Thus, the warmup became more than just a preparatory exercise; it became a tangible measure of progress and an indicator of enhanced physical capital. For participants, like Dave, being able to complete the warm-up was a big deal as it made him feel empowered (human capital).

> **Dave**: *"I want to get better, so I need to get fit. I need to improve my fitness because actually when I can do the warmups, and I can go a bit quicker, that*

makes me feel big, better. And the more … I can do in the classes … that's … growth. I think it helps me grow. It helps me grow in different areas. "

While participant's physical capital developments occurred at different levels, a constant was the sense of empowerment derived from its enhancement, highlighting the concurrent relationship between physical and human capital. For some, this empowerment came from being able to perform extra kicks on the kick ladder. For others, it meant being able to take part in the warm-up without stopping. Kick ladders are when participants would partner up, one with the kick pads and the other striking. Simply, participants would do one right kick, switch stance, one left kick, switch stance, two right kicks, switch stance, two left kicks, and so on until they reached their target number of kicks. They then go down the ladder in reverse and finish on one kick on each side. I recorded participants' scores weekly, and they were intrinsically motivated to improve their results. The addition of one extra kick on the ladder was physically taxing and an achievement. Regardless of the specifics, the empowerment experienced through developing physical capital was consistent across participants.

Craig described his physical capital as being diminished following a prolonged period of sedentary behaviour and isolation due to the pandemic.

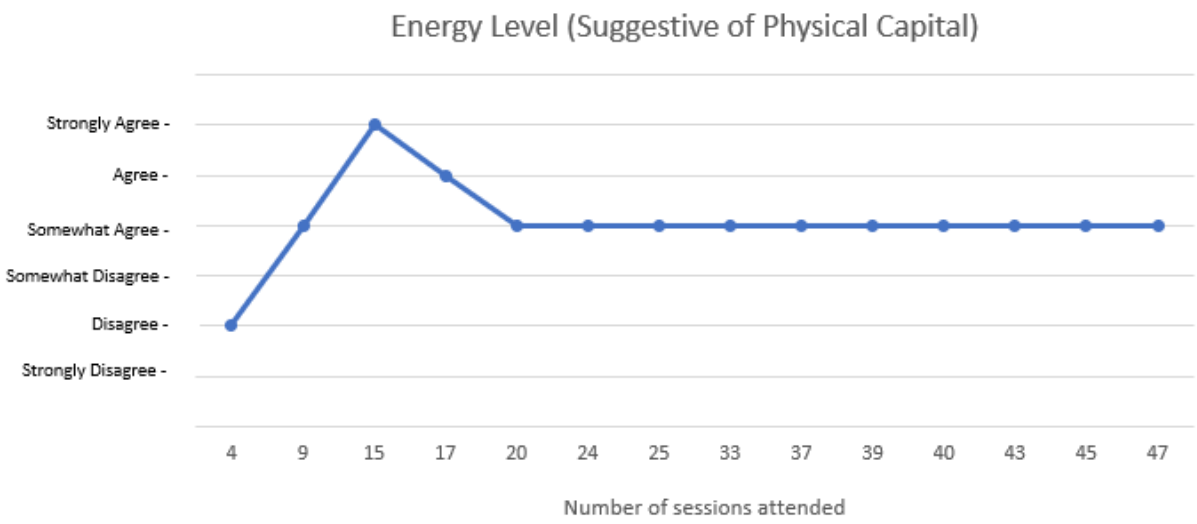
Craig: *"When I first started MMA … me fitness level was grounded … all the cardio I'd lost … all the fitness I'd lost … well before … I was going to the classes."*

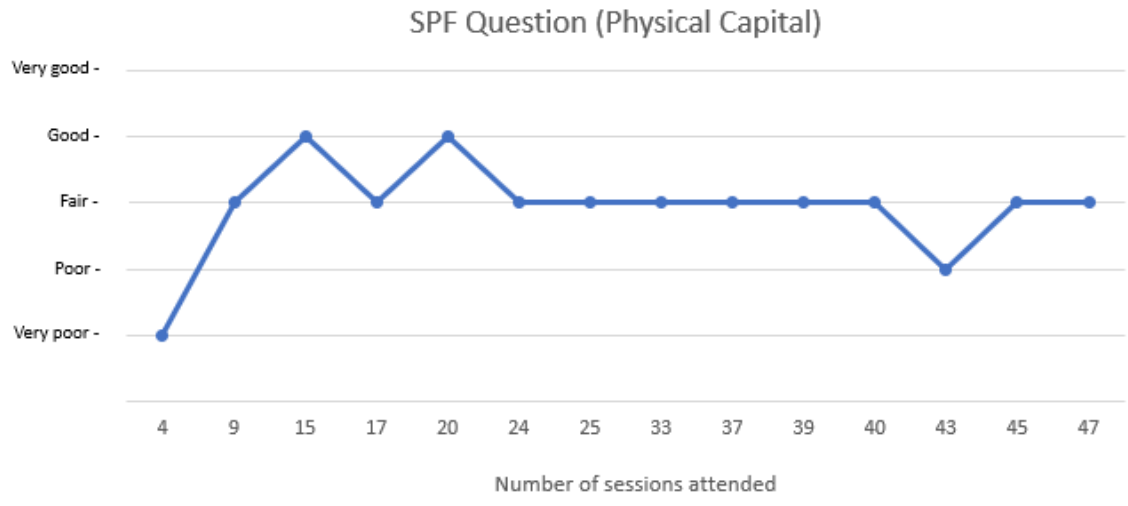
Craig would often feel nauseous at the end of a session. This was due to poor physical capital as he found the cardio intensity hard. Nausea from exercise is common, especially when the relative intensity for that person is high, and the likelihood of experiencing nausea is increased by poor diet and physical fitness (Wilson, 2019).

However, with repeat engagement, he started to see improvements in his fitness and these bouts of illness reduced significantly.

Craig: *"…the more times I did it … the less It was happening. Which then gave me the confidence to continue going … I saw that my fitness levels were increasing"*

***Figure 7**: Line charts: Craig's response to BARC physical capital questions*





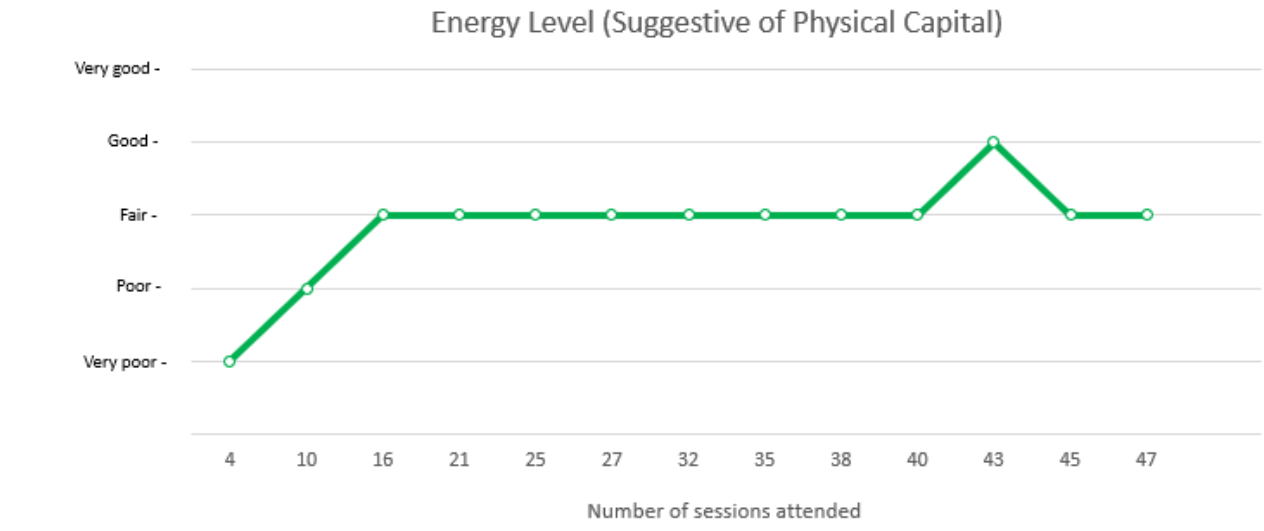
Line charts depicting Craigs physical capital scores from the BARC at various time points of completion through MMA training. Overall, this indicates an increase in Craig's physical capital correlating with the number of MMA session he attended.

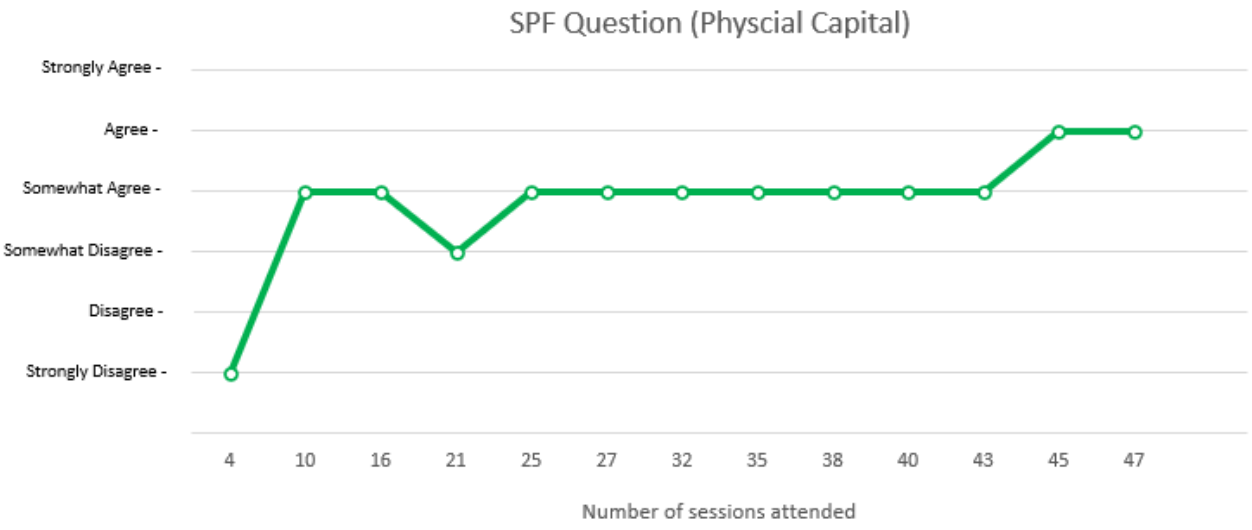
Figure 7 highlights Craig's developments in physical capital as he progressed through the MMA sessions. In both instances, Craig begins scoring himself negatively but soon experiences a positive spike. His scores then levelled off but still showed a positive increase in physical capital as he attended more MMA sessions. As he developed his fitness, he also learnt new techniques to manage his recovery allowing him to maintain intensity throughout a session.

> **Craig**: *"… at the beginning, I'd need a couple of minutes to … you know, bring yourself back round to … engage again. Whereas right now … because I'm getting used to it, and my fitness is getting a lot better and my cardio's improving … I'm only needing a minute or 30 seconds. And … [the] breathing that he taught me (Liam) … like looking up and breathing … it's a lot … better … like physically."*

Finely too began MMA classes with low physical capital (9.2). Having recently exited domestic abuse (8.3), the MMA classes were his first foray back into exercise after a lengthy period of physical inactivity. Figure 8 shows Finley's development in physical capital as he progressed through the MMA session. Like Craig (Figure 7), he began by scoring himself negatively as he struggled in the initial sessions. With repeat engagement, he significantly improved his physical capital.

Figure 8: *Line charts: Finley's response to BARC physical capital questions*





Line charts depicting Finley's physical capital scores from the BARC at various time points of completion through MMA training. Overall, this indicates an increase in Finley's physical capital correlating with the number of MMA session he attended.

Mark: *"How long with engaging with MMA do you reckon it was until you started to make the improvements in fitness, and what was it about your fitness that did improve?"*

Finley: *"…a couple of months, I think … I wasn't getting as breathless.*

…

Finley: *"… as I kept coming … my ability to catch my breath, to not need to take so many drinks or to take a pause"*

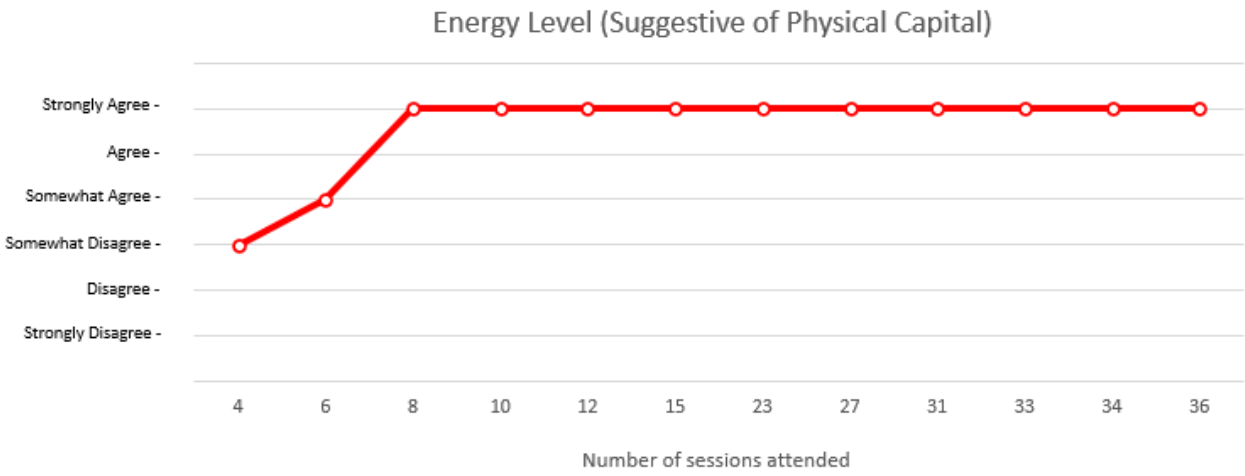
…

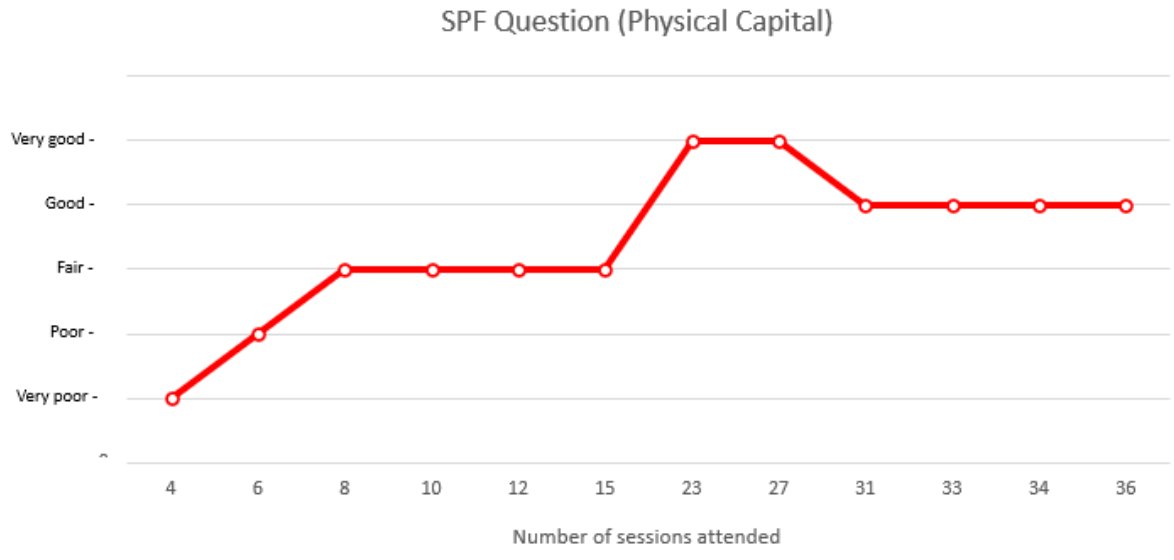
Finley: *"And the kickboxing as well. I found that easier the more that I've attended. And, you know, with the ladders, I found that easier … Like that week where I … was with you, and I just bashed it out in no time. It sort of unlocked something in me. I was like, Jesus Christ".*

Regular participation in PE is shown to improve the cardiovascular health status of homeless individuals (Randers et al, 2014; Helge et al, 2014; Malden et al, 2019). Similar findings were observed in this study through MMA. This is reflected in Finley and Craig's BARC scores and interviews.

As was the common theme, Stacey's engagement with MMA followed a prolonged period of physical inactivity. Having battled heroin addiction (8.5) and grappled with mental health challenges (8.4), Stacey faced a significant deficit in her physical capital which was exacerbated by her asthma. Her initial experiences in the classes were marked by challenges during the warm-up. She often had to stop and sit out as she struggled with the physical demands. I would frequently find Stacey sitting down in the seating area during the warm-up using her inhaler, frustrated that she had to take breaks. However, Stacey's commitment and regular attendance became a catalyst for rapid improvements in her physical capital which can be seen in Figure 9.

Figure 9: *Line charts: Stacey's response to BARC physical capital questions*





Line charts depicting Stacey's physical capital scores from the BARC at various time points of completion through MMA training. Overall, this indicates an increase in Stacey's physical capital correlating with the number of MMA session she attended.

Originally scoring her physical capital low, she reported an increase as she progressed through the sessions. Her improvements were a testament to the dynamic nature of physical capital developments and underscored its diverse and individual nature. The warm-up, initially a tough challenge, transformed and became a stage where Stacey

could demonstrate her progress. Her journey involved overcoming the obstacles related to her asthma, learning to control her breathing and reducing the frequency of breaks, eventually eliminating them. Stacey's experience resonated with the experience of other participants, highlighting a common struggle associated with low physical capital.

Developments of physical capital through MMA were not limited to the gym; they transferred into other aspects of participants' lives. This indicates a development in RC and a shift in habitus. For Finley, it positively impacted his work, alleviating some of the strains of his manual job.

> **Finely**: *"Like at work and things like that … I was able to be a lot stronger. So, I do a lot of lifting and carrying so it didn't take as much out of me … I was able to do things a lot easier, which definitely benefited."*

Finely also spoke about improvements to his posture through engaging with MMA.

> **Finley**: *"Oh, also in terms of physical it's helped my posture as well."*

Craig too found the improvements in physicality through MMA beneficial outside of the gym.

> **Craig**: *"… Because I'm becoming more physically healthier, It's bringing everything else up with it"*

Craig was one of our oldest participants in his 50s and benefitted from the emphasis placed on stretching.

> **Mark**: *"So your flexibility is improved then?"*
>
> **Craig**: "*Yeah."*

Mark: *“What do you reckon that's down to?”*

Craig: *“That’s down to … the stretching. Like, the stretching techniques that we're doing there, and … various things that we do in there … I can see that I'm getting a little bit more healthier, gradually … every time that I'm going there.”*

Some participants had a natural ability for MMA. Desmond, Frank, and Jason are examples. But for most, there was a steep learning curve as they were unskilled fighters who came with little to no understanding of the skills required for MMA. Eva said, *“I find MMA really fucking hard”* and that *“every session that you go to is difficult to do”*. This sentiment was shared by numerous participants.

Mark: *“So how do you find the classes then”*

Steve: *“There tough.”*

…

Oscar: *I still get slight butterflies you know, before each session*

Mark: *Do you?*

Oscar: *Yeah. But not in a, ‘I'm gonna get hurt type of way’, in a, ‘am I gonna be able to do this?’”*

…

Finley: *“I do struggle with it from time to time.”*

What participants found difficult varied. For some, it was the fitness element, for others, it was the complexities involved with BJJ or striking. Regardless of what people found difficult, it presented an opportunity to overcome adversity through the accumulation

of coinciding physical and human capital, surmounting in a boost to RC. Those who attended consistently made greater improvements to their technique (human capital) alongside physical capital. Stacey was representative of this. Although she struggled in her initial sessions, because of her low physical capital, she demonstrated resilience (human capital) and continued attending. As she became more physically capable the focus was then on improving technique. She struggled with the technique and would hit the pads incorrectly and risk injury. However, her consistency provided results which were noticed by others.

> **Dave**: *"One particular woman, she's grown quite into it where actually when we were doing some of the submission moves, some of … the judo, she was one of the first people who wanted to do it … Compared to when … I think she started when I started, she was really, really, quite timid. And when I came this week, I see … a massive growth."*

As she became attuned to MMA training and developed her skills, Stacey was able to help others, showing them how to hold the pads properly, or helping people grasp techniques during BJJ. Stacey advising others on how to perform moves during BJJ demonstrates not only her improvements in MMA but also her adoption of the cultural capital associated with the sport. Fuller and Lloyd (2019) relate the culture of martial arts to norms, values, and expected behaviours in and out of training, including etiquette, respect, understanding, and helping others. In MMA, it is common for experienced individuals to help those who are less experienced, especially in BJJ. For example, as a beginner, I was always advised to spar with people more experienced. When I rolled with black belts, I was given opportunities to practice the techniques I had learnt, whereas rolling with another beginner was more like a backyard wrestling match. Whilst Stacey was not a black belt, within the context of our MMA sessions she

was one of the most experienced. Her taking the time to educate new participants indicated a sacrifice of her ego and showcased inclusivity and respect for others (cultural capital).

Whilst Oscar did not find MMA physically difficult, he faced challenges executing combinations and holding the pads. These challenges highlighted a gap in his skill development (human capital). He often became confused during combos and struggled with coordination. This posed a potential danger to other participants. Because of this, Oscar would need step-by-step guidance from me or Liam before we trusted that he knew the combination. The impact of this is a less intense session for him, reducing the potential development of his physical capital, as he would have to take things slowly at first. Like Stacey, Oscar was consistent with his attendance and with each session his ability improved. He showcased a commitment to learning and developing his human capital in the context of MMA. Gradually, he did not require constant reminders of what to do. He began to autonomously take part in the class. This indicated a growth in his ability and gave him confidence (human capital). The next challenge for Oscar was encouraging him to hit the pads with more force, which he seemed resistant to do at first. This applied to other participants who were reluctant to demonstrate aggression. This potentially links to human capital and participant's limitations in showcasing assertiveness and confidence. Oscar's willingness to exert more force coincided with the development of confidence in the MMA class and support from peers. Frank noticed Oscar grow in this way.

> **Frank**: *"That's what he did the first time, he just tapped it so then I hit it hard, and he said, 'I should've done that', and I said, 'Yeah do it, do what you like with me, Oscar' and then he started proper going for it, hell for leather. And I was like 'Well done mate what a punch, you're smashing it, Oscar'. Encouraging all*

the way and you could see he was properly engaged in it, fully invested and animated and happy and stuff like that"

Positive feedback from peers like Frank contributed to the enhancement of Oscar's social capital and human capital. His struggles with exerting force also applied to BJJ. Again, it was through consistency that he grew in confidence and could lightly spar[15].

Other participants were deemed capable of sparring, and this was a big occasion. Being trusted by the coach to spar symbolised reaching a certain point of human capital through skill acquisition, cultural capital through mutual respect for others, social capital through social bonds and trust in other participants, and physical capital to cope with the physical demands. Craig and Finley were the first two that reached this point, mainly due to them being the only consistent participants for the first year of the classes. I had been unable to attend the classes for three weeks when I first observed the two of them sparring.

"I had Covid, and it floored me, so I have missed the past three sessions. It was good to see everyone again. I was surprised by the dramatic improvements that I saw in Craig and Finley's abilities. Liam approached me with 15 minutes left of the class and said, "I'm going to let them both do a bit of light sparring at the end". I was excited for them that Liam was going to let them do this as I know the thrill of sparring. What took me by surprise was how casually Craig and Finley reacted when Liam told them they were going to spar. I was further shocked when the two of them went over to their bags and put in their gum shields. It turned out that they had sparred last week, and Liam had advised that they get a gum shield. I was slightly disappointed that I wasn't there for their first experience. Their

[15] Fight simulation where practitioners practice their techniques on one another.

sparring rounds were great to watch. It made me think back to my first experiences with fondness and I envied the adrenaline rush they were about to receive.

Desmond, Stacey, Eva, Aaron, Dave, Frank, and Erica also sparred. That does not mean that other participants did not reach the skill level where they were competent enough to spar, some were just not given the opportunity as it was not something that occurred in each session. However, for those who did it was always viewed as a milestone and representative of their capital improvements. No participant was good enough to spar on their first MMA session. They only became good enough through regular participation where they gained the required capital. These required skills were gained through discipline and structure, both of which are elements of human capital. Furthermore, discipline and structure are both inherent values of MMA (Sharpe et al, 2007; Fuller & Lloyd, 2019; Moore et al, 2020) and participants demonstrating these values are indicative of them adopting the cultural capital associated with MMA. This represents an overall increase in RC.

Randers et al (2014) and Malden et al's (2019) studies found that regular exercise engagement promotes physical fitness and choices regarding improving health behaviours. Participating in MMA encouraged participants to engage in further exercise and improve physical and human capital outside of the MMA gym. Free gym memberships were offered through MBC to participants who completed 10 MMA classes (6.1), and many utilised this. Some engaged with wider activities facilitated by MBC, such as Strong Saturdays[16], and Stacey, Oscar, Eva, and Finley had strength

[16] A program which prepares athletes for the sport of strongman (Fitzgerald, 2017)

training exercise programs written for them. Stacey claims that she would never have started engaging in other PE had it not been for MMA.

> **Mark**: *"Well, it's gone a bit further than just the MMA classes because you're doing other stuff."*
>
> **Stacey**: "*Yeah"*
>
> **Mark**: *"Cos you're doing your circuit classes, and we were just talking about the strong Saturdays"*
>
> **Stacey**: *"Yeah, but none of that would have come about if it weren't for MMA. 100%. I know that no doubt".*

Stacey used the gym to improve at MMA.

> **Stacey**: *"The idea for me is that the gym makes me stronger for MMA."*
>
> **Stacey**: *"That's why I do the gym, to make me better at MMA."*

The crossover of a strength program alongside MMA training further positively impacted RC. Eva spoke about how the two complemented each other during an interview.

> **Eva**: *"I think MMA is … fitness because they are quite intense sessions. Like you go and go and go, and whereas then the other ones a bit like lifting weights and that is … actual strength. … So, my punches are a lot better now at MMA from going to the gym. But then like my reps and stuff for my ability to be like, right, what's next? … That's probably come from MMA."*

For those on programmes, the benefits of increased strength and fitness were evident in the classes. Not all participants wanted to attend MBC's gym sessions, but they were still motivated to do further exercise.

> **Dave**: *"…you could kind of say if I weren't doing the MMA classes, I wouldn't be running a couple of times a week. So, it's brought … fitness back into it for me, because I want to be able to do more.*
>
> …
>
> **Mark**: *"So, have you been feeling that doing the extra stuff outside has helped you?"*
>
> **Dave**: *"Certainly, in terms of the cardio. So, like when I get back in today, I'll probably do maybe only a smaller session because I did a massive session last night. … There's a guy who's just started at … the supported accommodation that I live in who used to do boxing, so I'm now starting to do some of the boxing sessions. Some mitt work with him."*
>
> …
>
> **Mark**: *"Do you reckon if you never came and did that MMA session, do you think you would have ended up starting to do the running and the boxing?"*
>
> **Dave**: *"No, no"*

Dave's focus on improving in the MMA classes encouraged him to engage in other exercises. The jogging and extra boxing sessions can be viewed as a shift in habitus geared towards improving his physicality and technical MMA ability, both sides of the MMA coin highlighted at the start of this section. Through developing these habits, he

was able to eventually join in with the entirety of a class whereas initially, he struggled with the warm-up.

In 9.2, I discussed how some participants previously held good physical capital due to past PA. Developing physical capital, or reaching back to a previous state, gave participants the motivation to reengage with past exercise interests. For Craig, this was long-distance running and cycling.

> **Craig**: *"I'm considering other things because I'm getting a lot more healthier … like coming to more classes and doing MMA. I'm … training for the marathon and then I'm considering like, getting back on the road bike. You know like through coming … MMA, and going to the gym … I'm considering other options. … like picking other things up that I used to enjoy."*

Craig was able to use the classes as a catalyst to train for the London marathon which he completed in 2022. Afterwards, he posted a message with a photo in the MMA WhatsApp chat writing, *"Without you guys at MMA on a Wednesday my ambition wouldn't have been a reality… THANKYOU & keep believing".* Craig was able to exhibit his increased RC through completing the London Marathon and the positive reaction from the group highlighted the infectious nature of recovery (Fitzgerald, 2017).

Both Finley and Oscar used the confidence (human capital) gained through MMA to return to swimming.

> **Mark**: *"So have you kept on with the swimming then or did you reengage with that by coming to the classes?"*
>
> **Finley**: *"Reengaged with it"*
>
> …

Oscar: *“Well, actually, I think that's where I got the confidence from to start going swimming again”*

Whilst both reengaged with the same PA the route that MMA empowered them to do so was different. For Finley, it was linked to the weight he was able to lose through the class and improved body confidence (see 10.4). For Oscar, it was taking part in a sport that was unknown to him and the confidence gained altering his habitus.

Oscar: *“Say something else came along that I might feel uncomfortable doing, I'd probably be more likely to give it a go now because of MMA”*

…

Oscar: *“You've gone from that uncomfortable motion of the people fear, not knowing If you're gonna be good enough at it, to being like well, does it matter either way and then [you’re] actually doing it regularly. So, you think, well, yeah … I'm trying to think of a sport. Say if rugby came along, I've never been interested in rugby, and I think, oh, yeah, I'll give it a go, Why not? What's to lose? I might enjoy it, I might not, who knows. But I’m more willing to try it now I’ve made that first initial jump”*

Oscar no longer feared the unknown and felt empowered by MMA to try new things. His pursuit of further education (see 10.5) is him putting the capital gains made through MMA into practice.

Craig, Desmond, and Finley each progressed to hold memberships at SS and attended extra sessions. Attending public classes sped up acquiring physical and human capital simply because they were training more. They also had the opportunity to further improve their social capital by entering a new community. Add this together and there is evidence of an increase in RC and a positive habitus change mediated

through MBC's MMA classes. Importantly, substantial increases in RC were observed regardless of whether participants attended extra sessions. While this section has primarily focused on the development of MMA skills and physical capital, the community and social impact were crucial elements in improving RC.

10.3 Finding Connection on the Mat: Friendships, Trust, and Community

Frank: "*He's a younger guy from different backgrounds and different cultures, but in there were just a couple of guys rolling about and hitting the pads together, it's nice."*

Best and Laudet (2010) viewed social capital as critical for building personal strengths, resources, and accessing community support. Table 6 demonstrates the statistically significant increase in participants' social capital through the BARC domain 'Social Support'. This shows positive developments in social capital across all participants during the MMA intervention.

Participants viewed MMA as a recovery group, with participation in recovery groups having the potential to foster supportive networks that allow individuals to sustain recovery and promote well-being (Best et al, 2015). The importance of social capital and supportive relationships have also been consistently associated with sustained recovery and a protective factor against homelessness (Ross-Houle & Porcelatto, 2023). This importance was recognised by participants.

Mark: *"How important is it to have social relationships within recovery?"*

Eva: *"Very important because recovery is like, I don't know, I find talking about like addiction or recovery can be quite silencing sometimes cause it's so much. I don't … personally have a language to be able to talk about it, because it's just too fucking much. So … it can be difficult with people that aren't in recovery to really get a real connection there. So, I think social relationships and recovery, I think they're actually possibly the most important."*

…

Mark: *"How important are social relationships to recovery"*

Stacey: *"Loads"*

Mark: *"What is it about them?"*

Stacey: "*… it's made me come out of my shell more and if I weren't talking to people then I wouldn't be going to the other groups that I've started going to after MMA. I'd just be still at MMA. … but it seems to have spread wild (laughs)*

Both directly emphasise the importance of improving their social capital for recovery. Eva talks about it more generally, suggesting that during her recovery she can only truly connect with people who are in recovery. Stacey directed her answer towards MMA and how they it propelled her into attending other groups. Attending groups, including MMA, allowed Stacey to form friendships, something that had been missing in her life for some time.

Mark: *"So, what's different in your life then? What is it that's different now?"*

Stacey: *"I've got friends. I go out more, I've got confidence…"*

Organised PA has been shown to increase social connection (Kemter et al, 2024) and this has been the case with the MMA classes. I enjoyed watching friendships flourish as a product of participating in MMA. Some participants associated with each other away from the sessions and would call themselves friends. It never took long for relationships to develop, and it occurred both inside the gym and outside. The quick development of these relationships was partly due to participants' recognition of building social capital and the friendly community that emerged from this.

Boeri et al (2016) emphasised the importance of engaging in activities beyond the treatment environment and establishing social connections outside the recovery setting to enhance social capital and recovery outcomes. Participants, like Stacey, were keen to socialise with the group outside of MMA. This began with her inviting individuals she grew close to, like Erica and Eva, to a game of pool. Stacey had previously enjoyed playing pool, but pool tables in the UK are traditionally found in pubs or other places where there is an emphasis on the sale of alcohol. Having struggled with alcoholism (8.5) she did not feel comfortable playing in those establishments, and this was shared by the others that she invited. She suggested to a referral agency that a pool table would be a good addition, and one was purchased for service users to use. Stacey and other participants would often go for a game of pool before MMA, socialising before the session. Stacey explained to me during an interview why having social activities for people in recovery was so important.

> **Stacey***: "Because you might just end up slipping back into routine and go down [the] pub with your mates, putting yourself in a situation where you're more liable to slip. But if there's somewhere that you can go and hang out on [a] weekend instead of going pub"*

The private invites to play pool quickly grew to her organising group bowling and roller skating via the group chat. These were well attended with roller skating becoming a monthly activity. Stacey told me about the first time they went.

> *On the walk to the gym, Stacey was telling me how much she enjoyed roller skating last Friday. I remembered the picture she sent into the group of their skates and the new nickname that they had for Craig – 'hot stuff'. Stacey told me about who was good and bad. Finley spent most of his time sitting down and Craig was surprisingly good. "Go on then, why's he called hot stuff?", I asked about Craig. Stacey laughed at this. "It's because he kept going missing and each time we found him he was chatting to a new lady!" she said whilst giggling.*

Meaningful activities are often cited in RC literature as influential for long-term recovery and capital developments (Collins et al, 2015; Best et al, 2016; Veseth et al, 2022). Not only were the MMA classes viewed by participants as a structured meaningful activity to improve physical and human capital (10.2), but so were the additional social activities that participants were engaging with via MMA. Engagement in these activities provided further opportunities for them to foster quality connections (social capital). Fitzgerald (2017), when applying the RC model to the field of exercise and SUD, found meaningful activities within a community crucial in fostering supportive social networks. In addition, Oudshoorn (2022), in their evaluation of a sports programme aimed at increasing social inclusion for individuals experiencing homelessness or mental health challenges, saw that social connectedness formed through the sports programme often extended into the wider community. Similar findings were observed in this research. The MMA programme assisted in anchoring individuals into a broader community that was not limited to the MMA gym.

Craig's Taxi Club was another opportunity for participants to socialise with each other outside of MMA. It was born from his desire to help others get home after MMA. Having been afforded a car on benefits due to disability conditions, Craig was the only participant who did not have to rely on public transport.

> **Craig**: *"If people are finding things a bit difficult to get there … then them being able to say … can I get a lift… I think those aspects are … important … because it's like many people [it] will be a barrier for them. But then you put the bridge there for them, because you know you're going to benefit from them coming in. Whereas … if you miss a couple [classes], you know it is difficult to engage again."*

Craig was willing to provide transport to the gym as he recognised it as a barrier to attendance. He was also incentivised as he appreciated how much more he got out of classes with more participants. At first, Craig's offer of transport was rejected; however, as time progressed, and social capital was established, they accepted. Many made the most of Craig's offer. This provided another opportunity for participants to build their relationships outside of the gym, expand their social capital, and improve their social skills (human capital). This then transferred into the gym and contributed to the community, as friendships were formed.

Fuller and Lloyd (2019) found a clear distinction between social connections made through MMA training. The first was a strong sense of belonging and identity through being part of the community, and the second was meaningful connections developed over time which are more associated with friendship (Fuller & Lloyd, 2019). These solid bonds are built on trust and respect, which form part of the culture of martial arts training. Therefore, highlighting the connection between social capital and cultural

capital within the context of MMA. Some exceptionally strong friendships have been built through the MMA intervention. These friendships have provided support which reaches beyond the gym. Finley and Craig were from two different walks of life. There was a substantial age gap, with Finley being in his 20s and Craig in his 50s**.** Both were the only two consistent participants for the first few months and formed a friendship. During an interview, Finley spoke about this unexpected relationship.

> **Finley**: *"Also, like building friendships and things like that … it's something that I didn't expect. Like, say with Craig for instance … it's been really nice to sort of make friends outside of work and outside of settings that I'm not usually in…"*

MMA enabled participants to make friends outside of their standard social setting. It was rare that they knew each other before attending a class. Through MMA they were able to meet like-minded people attempting to make positive changes. Finely's relationship with Craig offered him significant support.

> **Mark**: *"Can you tell me a little bit more about the friendship side of it? What that means to you?"*
>
> **Finley**: *"It means it's easier to come because I know that I'm gonna see a friendly face. It means that … I can talk to someone that I'm friends with … having that sort of connection there is helpful. It helps me engage with it. … Like, we push each other as well. So, like encouraging each other to sort of push ourselves. Which is helpful. Like, when we're doing the combos and stuff … I say to Craig, you know, like 'one more one more, you've got this amount of time left, come on', sort of thing. And like with transport and stuff, it makes it a lot easier. But also … he said if [I] ever want to go to the gym, because I have*

a quite big fear about going to the gym on my own, he was like, you know, we can go together … and I found that really helpful."

…

Finley: *"I don't know, [if] I've had a shit day at work and I am feeling quite low and I don't really want to leave house … it's giving me a reason to go and do things so that I am not wallowing or … ruminating about my day … or just … feeling rubbish. So … yeah, I think it's very much had a positive impact on my mental health and also the social impact has been good to. Especially with … Craig, he's so lovely, especially like offering to give me … lifts and things like that, because we live round the corner from each other … He didn't need to that, and I was very grateful to him for doing that, especially during like the strikes and stuff"*

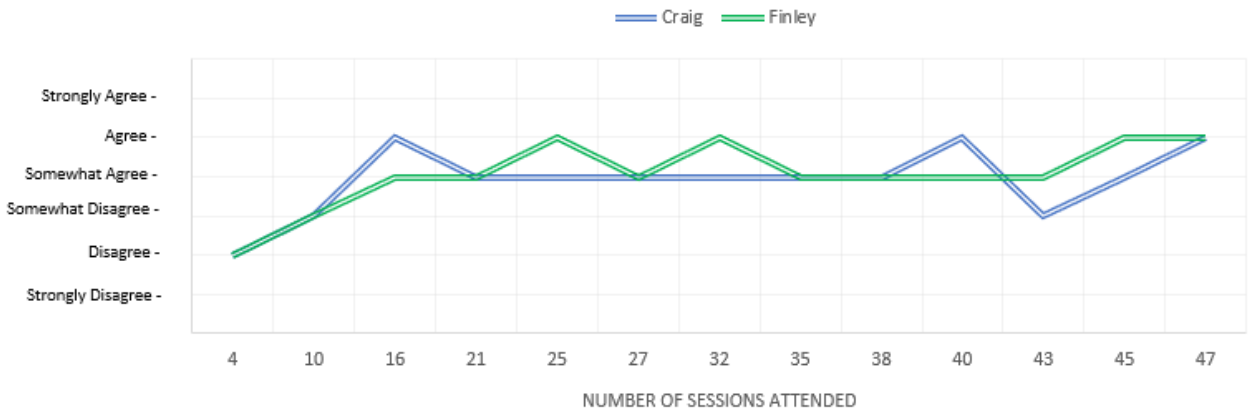
Alongside the encouragement to push each other during the classes to improve physical capital, the support that Finley received as part of his friendship with Craig gave him the confidence (human capital) to attend classes. Figure 10 shows the development of Craig and Finley's social capital as they progressed through MMA sessions together. Both initially scored themselves negatively. As they progressed through the session and bonded with one another, their social capital increased. Therefore, Craig's support contributed to Finley's overall increase in RC and vice versa. In 10.1 Finley's issues with social anxiety, especially surrounding being misgendered was explored. His friendship with Craig alleviated some of these difficulties and gave him confidence. This contribution to building Finley's confidence was long-lasting and he was not reliant on Craig's support to attend classes. This was shown through Finley's continued attendance when Craig was absent. Throughout the

research, Finley underwent several operations, and Craig once took him to his appointment. I discovered this whilst talking to Craig when he had come to observe a class.

> *"Whilst the others were getting coached by Liam, I went over to Craig, who had set himself up with a chair by the mats so he had a good view of the class. I asked him how he was. He told me how glad he was to have come to the class, even if it was just to watch, and that next week he would join in. Training for his marathon is taking priority over the MMA sessions, but he still likes to come to the class and see everyone. Finley wasn't at the class today as he is having an operation tomorrow and I asked Craig if he had heard from him. "Yeah. I'm giving him a lift to the hospital in the morning", he said. We then spoke about his marathon before I was called over by Liam to help. As I left, I couldn't stop thinking about Craig taking Finley to his hospital appointment tomorrow and the level that their friendship had reached."*

In 8.2, Finley spoke about his fractious relationship with his family and the damage this had on his social capital. The care usually provided by family or friends, such as providing transport to the hospital for an operation, was being performed by Craig.

Figure 10: *Line chart: Craig's and Finley's response to BARC Social Support (suggestive of social capital) as they progressed through MMA sessions.*



Line chart depicting Craig and Finley's responses to BARC Social Support at various time points throughout MMA training. Overall, this indicates an increase in Craig and Finley's social capital, correlating with the number of MMA sessions they attended.

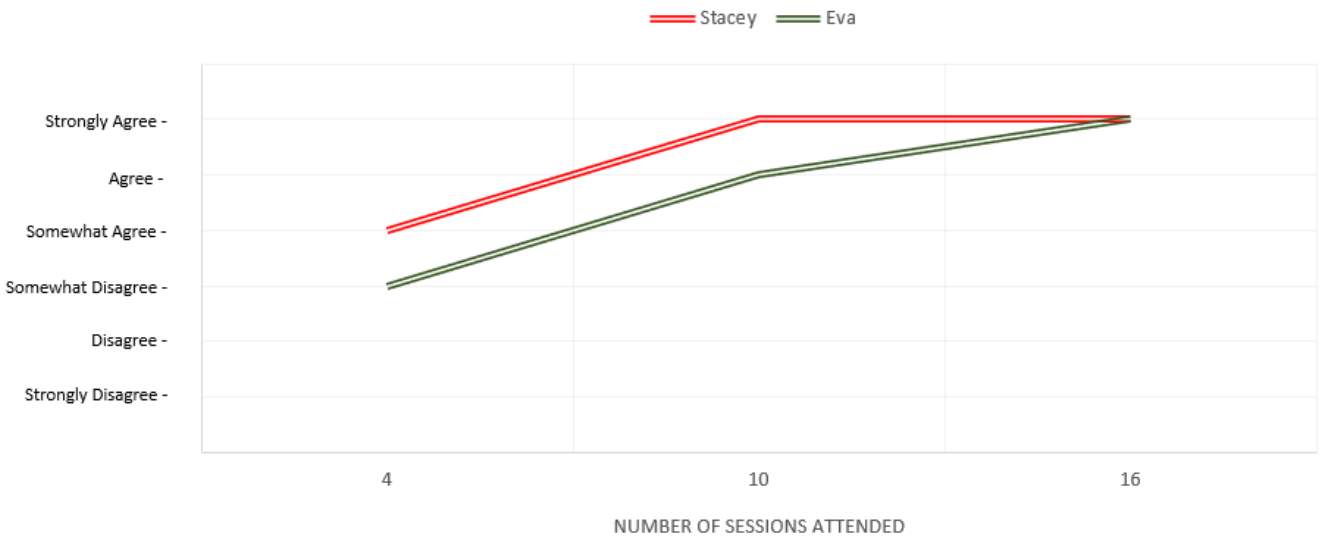
Stacey and Eva's relationship was similar. Both were at completely different stages of life due to age differences. Stacey was a grandma (50s) and Eva (mid-20s) was a university student; yet, MMA brought them together and provided support through the development of social capital. Figure 11 shows the development of their social capital as they progressed through the MMA sessions together. Both initially scored low social capital. However, as they trained and built a relationship, their social capital increased. During an interview, Eva spoke about the support that Stacey gave her.

> **Eva**: *Stacey. Oh, Stacey, she's so inspiring and she's amazing and I've spoken to her a lot as well. You know, about things that have happened in the past … and she just gets it and … she really encourages me to continue fighting physically … and she … reassures me that it's ok…"*

This support was reciprocated by Eva.

"I overheard Stacey when she was on the pads with Eva say that she had a "shit week". I don't know exactly what she said but Eva was supportive and said, "Let it all out on the pads then". I then watched as Stacey unleashed hell. It was no wonder she was gassed out at the end of the round. Whilst there was no attention to technique, it looked cathartic for her."

Figure 11: *Line chart: Stacey and Eva's response to BARC Social Support (social capital) as they progressed through MMA sessions.*



Line chart depicting Stacey and Eva's responses to BARC Social Support at various time points throughout MMA training. Overall, this indicates an increase in Stacey and Eva's social capital, correlating with the number of MMA sessions they attended.

The support gained from building social capital stretched further than emotional. As she progressed with her recovery, Stacey considered gaining qualifications so she could enter work (10.5). In an interview, she spoke about how Eva was going to support her with this.

Stacey: *“Eva’s going to look into going to college for me, for me to start in September. Once she’s finished her exams and got that plate off her, got all that shit done, then she’s going to look into college courses for me.”*

Through building social capital, Stacey was able to lean on Eva’s cultural capital, as Eva was a university student, and her associated human capital in the form of knowledge, to apply for courses and write applications. This helped Stacey develop her human capital and increase her chances of improving her economic capital, ultimately resulting in improved RC.

The cases of Finley and Craig, and Stacey and Eva, are exceptional examples of friendships built through MMA. There were other demonstrations of friendships and support through belonging to the community. A basic example of support was in participants' encouragement towards each other during sessions and willingness to help each other in the performance of MMA. Desmond was the most capable in terms of MMA skills. From his first session, he could attend regular SS sessions, and he eventually did, but he continued to attend the intervention. I thought that as he participated in more advanced sessions the intensity of our MMA classes would not be enough, and his attendance would reduce. However, I was wrong to make this judgement, and he continued to come and support others who were not as capable as him.

Despite now attending sessions at SS and having a better ability than other participants, Desmond seems comfortable in our classes and there’s no ego with him thinking he is better than anyone. We often pair him with new participants because he is willing to slow things down for people who are not confident. He never seems put out by this either. If my observations weren’t enough to confirm

Desmond still benefits and enjoys our classes, then his own words are. At the end of the session today, he wrote in the group chat, "Thanks for today guys n girls. Really needed that <3'"

Whilst the development of the self is an integral aspect of martial arts training, so is the participants' moral approach to others (Martinkova et al, 2019). Desmond's demonstration of self-control, humility, and respect when working with those less able is indicative of his cultivation of the human moral conduct associated with martial arts practice (cultural capital) (Cynarski & Lee-Barron, 2014; Martinkova et al, 2019;). Wacquant (1992) observed the most abled boxers within the gym look after the less abled and nurture them to develop their skills, the same as Desmond was. Desmond's supportive role in helping participants with technique during the class did not go unnoticed.

> **Frank***: "Desmond was quite supportive with grappling and jiu-jitsu, and he helped me. I loved that because I don't know as much about it. And, do you know what's refreshing about him, it's that probably we're polar opposites me and him. He's a younger guy from different backgrounds and different cultures, but in there were just a couple of guys rolling about and hitting the pads together, it's nice."*

Frank was also one of the more competent participants at MMA. Like Desmond, he seemed to get pleasure from supporting other participants who were less capable.

> **Frank**: *"… What I got with Oscar were, and I could tell he was proud as punch, and it made me feel really good. In one of the sessions, we were paired up and he were hitting the pads, and I were giving him compliments and motivating him by saying go on Oscar, you're hitting them pads well and I can see him think,*

yeah man. I was like 'bloody hell Oscar you're proper whacking them pads', and I could actually see him grow an inch and that smile on his face, which he doesn't smile often, but he was beaming"

Participants enjoyed watching others grow as it allowed them to grow as well. Dave put it perfectly when he said *"A rising tide raises all ships"* meaning when one improves, we all improve. This again highlights the infectious nature of recovery as observed in Fitzgerald's (2017) research. Singh (2022) observed similar during their ethnographic research within a kickboxing gym in east London. Individuals saw their improvement as being tied to one another and this is due to the intimacy of the sport and how participants lend each other their bodies during training (Singh, 2022). Furthermore, the social connections formed by this collective effort enhances social capital and fosters a sense of community, as suggested by recent studies in boxing gyms (Barrett et al 2020; Jump, 2020).

Research covered in 4.2 emphasised caution in using competitive sport as a homelessness intervention due to the negative effects it can have on the individual. In light of this, it was ensured that the MMA classes were a site for personal development, not competition. The supportive community was integral to this. There was nothing to be gained by one person being better than another. There was more to be gained in supporting each other, and there was no pressure to achieve anything.

Finley: *"I think when you build … social groups … you get a lot more comfortable and more relaxed, because those anxieties your either facing them or people are reassuring you that that's not really a reality. … there's no sort of pressure within the group to … have a certain skill level or fitness level or things*

like that. Like, there's no sort of shame or guilt if you can't sort of achieve a certain thing"

…

Stacey: *"Yeah. When you know everyone's in the same boat as you. Everybody's got a problem or more than one problem [there] … you know you don't have to be amazing at what you're doing ((laughs))"*

It did not matter how good a participant was at MMA, what was important was that they had shown up and were trying to better themselves. And many participants received fulfilment from this and purpose.

Aaron: "*… by going to groups and doing stuff, not only sort of socialising with others, but you're also helping other people to get better. You know, you're giving them hope"*

Gaining skills in MMA was important (10.1), but participants also valued the social skills acquired and the fulfilment of helping other people (social and human capital). They had a sense of purpose. Purpose, social connectedness, and filling time with meaningful activities all enhance quality of life (Laudet, 2010). Enhanced quality of life is indicative of increased RC.

Stacey described the classes as *"like your own personal support team"* and examples of participants providing emotional support to others during the classes were indicative of the more intricate value of the supportive community. Both Craig and Simon spoke about the emotional support MMA provided.

Craig: *"The emotional side is that you know you're going there, and you know everyone is at the same stage … you're not competing against each other …*

you can open yourself up in that environment. It's like … you're able to step out and then someone in the group will step out afterwards and … ask you if you are ok. You know, and that's the emotional side of it … someone's always got your back there. It's not like you're left there by yourself"

…

Steve: *"The mindset, it allows them to unburden themselves, get that out, 'I've had a shit week mate but I'm here', do you know what I mean? 'Don't worry about it mate, we'll fucking crack on', whatever … cos you see it after the session people start chatting"*

As part of the supportive community participants were willing to listen to each other's problems. There was both the cathartic release of performing powerful punches on the pads and the emotional release of talking to friends about life's problems. In Chapter 8, the chaos surrounding participants' lives was outlined. The impact of this chaos did not disappear when they stepped inside the MMA gym. For some, they had continued chaos affecting them. Something that the classes gave participants that had been missing was the social capital to help deal with life's challenges.

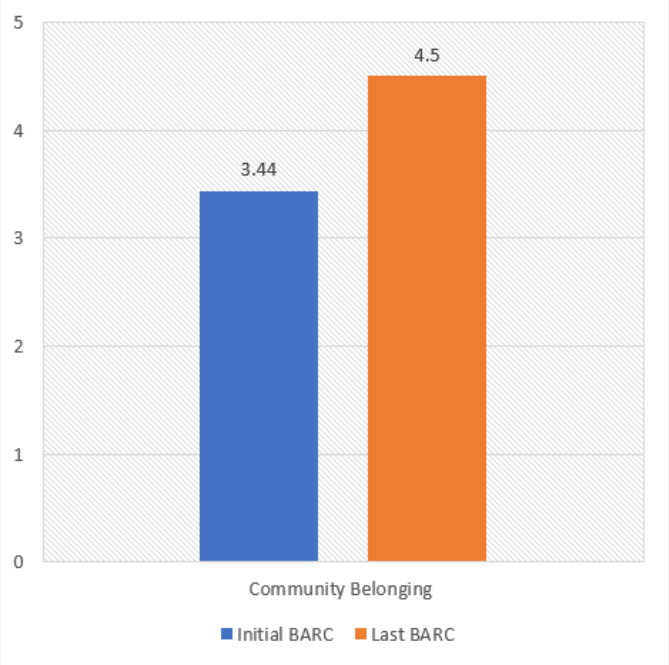
The community's pull of re-engaging participants in the classes was a demonstration of its strength. At times throughout the intervention, people either reduced their attendance or stopped coming completely. In an interview, Dave told me that he missed the group when he had not attended for a while.

Dave: *"So, the time I had out because I had a tattoo on my wrist … I missed coming to the Wednesday sessions. And I don't think it's just the sessions, I think it's [the] people we have there. Because the people you have in the*

sessions all seem to have the same mindset. So, they're there to enjoy themselves, they're not there to hurt other people or … for the wrong reasons."

An established recovery community is essential to critical success in late recovery (Goshorn et al, 2023). Figure 12 and Table 8 provide a visual representation of participants' BARC domain 'Community Belonging' scores from the initial to last timepoint of completion, and the statistically significant impact of MMA. Community belonging boosts both cultural and social capital (see Table 5)

Figure 12 and Table 8: *Bar Chart demonstrating the mean difference in BARC* Community Belonging (cultural capital and social capital) scores at *the* initial and last *time point* of completion, Paired Sample T-Test scores and Cohen's D effect size



Mean	Std Deviation	Significance	Effect Size (Cohen's D)
3.44	1.39	.005	-0.78 *(medium to large effect size)*
4.5			

Mean score from initial BARC
Mean score from last BARC

Comparison of the mean total of participants' responses to BARC Community Belonging at the first and final time point of completion, with paired sample T-test scores indicating statistical significance. Cohen's D effect size indicates a medium to large effect size. Overall, this highlights an increase in cultural and social capital

There was a variety of reasons why participants stopped coming to classes. Dave briefly stopped because of a new tattoo. A wise decision to avoid infection. Finley had to miss a total of nine months on two separate occasions due to surgery. Each time it was the pull of the community and the people that drew them back. Training MMA and the empowering developments certainly played their part, but it was the community that provided a sense of belonging and confidence to return. This echoes Wacquant (1992) where the boxing gym operated as a family. When participants spent a prolonged period away from the sessions, the WhatsApp group chat allowed them to remain part of the family. The WhatsApp group was created as a means of updating participants about classes so that in the event a class was ever cancelled, they could be notified (6.4). However, it became an important tool in building community. Bliuc et al (2017) found that online participation in recovery communities helped indivudals develop RC. Positive interactions online bound participants to the groups and was supportive for positive change (Bliuc et al, 2017). Soon after being set up, the group chat became a site for positive interactions between participants. When Finley was out of action because of surgery, he remained active in the group chat.

"I messaged the group to let them know that I would be running late for the class because of the heavy traffic. Craig then said that he wouldn't be coming to the session because he has signed up for a Shelter challenge that involves doing 3000 press-ups in April, so he wants to take it easy this week. Liam then decided to chime in and say for every minute I was late I had to do five press-ups. "I'm going to be paying some serious interest in press-ups", wrote Finley. This made me laugh since he hasn't been able to come to a session for over two months, and his message received a few laughing emoji reactions from the others. People then started to ask him how he was and when he would be back. Somehow

conversation turned to how he was needed back ASAP as they missed his DJing. "You can't trust Mark's music!" he wrote. Which again drew a few laughs from people.

Being able to continue interacting with participants through the group chat was paramount in keeping Finley in the community. The same applied to Frank, who had to stop coming to classes due to working outside of Sheffield. I interviewed him after he returned, and he mentioned how the group chat helped to facilitate his return.

> **Frank**: *"I come to Sheffield and as soon as I landed … the first thing that was on my mind was coming back to MMA. It might have taken me a while to get there, but I did get there"*
>
> **Mark**: *"If that group chat didn't exist do you still think you would have felt part of the community?"*
>
> **Frank**: *"I'd have still felt welcome. But it helps having that community already there."*

It became clear that participants were motivated to attend classes due to the strong sense of belonging with others. Eva described it as feeling "*like I'm around my people"* and that she could *"breathe a lot more*" and be authentic. Oscar said that classes made him *"feel at home"*. Craig reported that knowing that other people were at MMA for recovery purposes encouraged him to attend.

> **Craig**: "*They come from similar backgrounds as myself. So, that gave me the incentive to be able to go, because I knew everyone were at a similar stage where I was … So everyone was going there for the same … reasons. Like … for the goal of learning something, but just building yourself back up"*

…

Craig: *"Yeah … because … whether it be … like addictions, substances, you know, domestics, wherever they come from, wherever the situations [they] come from … they would all come to this group for the same reasons … to build the confidence and motivation, and to get healthier. So, that's what kept me coming."*

The tacit knowledge about others before and after attending the classes had a positive influence on participation. Jason had previously trained in MMA and would not have been out of his depth attending a public class at SS. However, he found comfort in attending a class where people knew he was there for recovery.

Jason: *"I knew something about every single person in that room before knowing them. Which is, we're all wanting to better our lives, you know, and that was probably the biggest reason why my guards went down so quick, or walls came down so fast. Because … we all knew why we were there."*

…

Jason: *"I think it's more to do with, like, a social cohesion … I think it's because everyone knows that aspect to you … You see it as a negative about yourself hugely, and it doesn't matter where you go or what you're doing, you do think about it a lot. You can walk in Meadowhall (shopping centre), and you have it. That's a constant battle of addiction telling you your self-worth. When you're in a group like that and you just know everyone knows that part of you, that disarms it."*

Best et al's (2015) study investigated the impact of social networks and social capital on quality of life and recovery. The study suggests that building social networks with a

substantial number of individuals in recovery can lead to improvements in quality of life and RC. Entering an environment where he knew something about everyone, and they knew something about him, allowed Jason to let his guard down and find joy in what he was doing. He did not need to be concerned about being judged. The concern that Jason had about being judged was shared by other participants. Stacey contributed to this discussion during an interview.

> **Mark**: *"So you feel comfortable knowing that other people there are in recovery?"*
>
> **Stacey**: *"Just knowing that there is some kind of underlined issue and they're there for help as much as what I am. You know nobody is going to laugh at you, nobody is going to start getting cocky whereas somewhere else at a different class it might be different"*

Participants felt connected because they all knew each other were recovering. This connection incentivised them to engage with the MMA classes.

By increasing social capital through MMA participants have developed trust. This trust has then extended into wider society. Trauma was common in participants' lives (Chapter 8). Following trauma, the ability to trust is frequently disrupted (Resick et al, 2017). When this trauma is perpetrated by someone thought to be trustworthy it is known as 'betrayal trauma', cited as when "the people or institutions on which a person depends for survival significantly violate that person's trust or well-being" (Freyd, 2008, p. 76). Throughout chapter 8, Frank described the violence in his life. These events impacted his ability to trust. Through MMA, Frank said that he was *"learning to be positive and trust people"*. This was counter to the habitus where he would *"see people on the street and immediately weigh them up as a threat"*. For Frank to take part in the

MMA classes, he had to learn how to trust and alter his habitual behaviours and thought processes, especially during BJJ.

> **Frank**: *"There's an element of surrender there and surrender to me is alien, or it were. So, I still struggle with it, you know, like lying there. My natural instinct if someone grabs me is to turn out, like turn them over … So, to be prone and surrender to them and let them grab me and stuff like that it goes against how I've been conditioned since I were a kid. To some degree I've dealt with that because obviously I'm doing it … but I have to work on it. The MMA now though, as you've said it like that, it's great for … retraining your brain. Certain aspects of your personality as well. Being able to surrender, being able to submit, I would never have considered that before. And … the trust, that's a big thing. The trust is massive. I never trusted anybody and through MMA you learn to trust people. And there not going to break your arm, there not going to knock your teeth out, or take your legs from under you ..."*

Through MMA Frank can reconstruct previous dispositions of mistrust and learn new positive behaviours. Other participants spoke about how they learned to trust through practising MMA. Oscar describes it as *"strange how newbies just come along, they join in, you don't know them, next minute you're holding pads up for them".* When a new person comes to MMA participants often have no knowledge of them and vice versa. Whilst they may have a sense of connection, trust would not be established. However, to fully take part in classes they had to be willing to trust. This process took time, but with consistent attendance and exposure participants' trust in others increased. Oscar, who attended 40 classes, spoke about how trusting others became the norm.

Oscar: *"Yeah, it's strange. But no, I don't think like even when I was with Sean, who was a new guy … I don't know what it is, like even though he could have missed the pads, and he did a few times, I didn't feel like, oh he's going to hurt me. I'm like, so what if he hits me in the face, I wasn't really that bothered. I thought yeah, he could but it didn't bother me. So, what if he does? It's not deliberate it's just one of them things."*

The BJJ component of the MMA classes was a common barrier for participants who had been victims of DA. Eva was an example of this, stating that there was a *"massive barrier"* between her and BJJ. She attended two classes and in the first class there was no BJJ, but in the second there was. After the second class, Eva stopped attending. This exemplified her habitual avoidance of conflict which was constructed by the abuse that she experienced from an ex-partner (8.3). Stacey told me that Eva had stopped attending because of fear she would have to do BJJ. As mentioned in 6.1, participants were never forced into doing BJJ and were always offered an alternative. An alternative was offered to Eva at that second class, but she decided she wanted to do BJJ. However, she did not enjoy it, and it made her feel uncomfortable returning. When Stacey disclosed this information, I asked her to tell Eva that she would not need to do BJJ if she came back. The next week Eva returned to the class.

At the end of the warm-up, Liam had them practising some clinches. When he asked them to partner up, Eva asked if she could go on the punch bag instead. Liam said yes and set the bag up and advised on a combo she could practice. I was keeping an eye out, but I was glad to see that Eva felt confident enough to ask to do an alternative. After there had been a couple of rotations on the clinch drill, Eva rejoined the rest of them and got to work on some striking.

Later in the session, Liam did some BJJ coaching. I saw him ask Eva if she wanted to do an alternative instead, which she said yes to. It would be me who would be doing some pad work with Eva as Liam would be coaching, but at this point, I was finishing off my kick ladder with Desmond. Whilst they waited for me, Liam spent some time with Eva and Stacey showing them what submission they would be doing. This was a rear-naked choke [17]that Liam first demonstrated on Finley but then asked participants to do it to him. Eva joined and had a go at practising the submission on Liam. I watched as she had a few goes with Stacey, Finley, and Oscar. When I finished my kick ladder I went over to the rest of the group and asked Eva if she wanted to do some pad work. "I think I am going to give this a try actually", she replied. I said that was fine but reminded her that we could go and do some pad work if she wanted. Eva took part in the whole BJJ session partnered up with Stacey

Something had switched for Eva during the class and suddenly she felt comfortable doing BJJ. Liam must be credited for how he dealt with the situation (the coach discussed more in 11.2). From that class, Eva always engaged with BJJ, eventually sparring (10.2). The barrier was not completely removed as she only felt comfortable training with Stacey at first. This was because, as she said, *"there is so much trust between me and Stacey"*. However, over time she built relationships with other participants and learned to trust them, eventually being comfortable partnering up with others, including men. In a later interview, I asked Eva whether there was still a barrier between her and BJJ.

Eva: *"I really don't think it is an issue now, no".*

[17] Submission move in which a fighter immobilises an opponent from the back and wraps arms around the neck to elicit a tap out (ESPN, 2023)

Guthrie (1995) posited that women's embodiment could be transformed through martial arts due to the empowering cultivation of mental and physical agency. This argument was central to McCaughey (1997) work which claimed martial arts could be seen as a 'physical feminism' which trains women out of the femininity that makes them easy targets for men. Eva's experience of BJJ is indicative of a transformation through MMA echoing the research of Guthrie (1995) and McCaughey (1997). Her experience of DA resulted in a habitual fear and avoidance of BJJ. However, exposing herself to BJJ, a stressful situation, is a vital part of processing that trauma and rejecting notions of innate fear and weakness (Weinberger & Burraston, 2021; Marich, 2022). Thereby, she came to embody a new empowered sense of self. Key to this transformation is the development of trust. Being able to trust was a skill that Eva and others have developed through MMA. This indicates a shift in habitus for individuals who have spent time in a field where trust leaves them open to exploitation or abuse. It increases their human capital; yet, it is through subtly developing their social capital within the MMA gym, which on the surface is a field for physical development, that this trust has been learnt. In 10.1, I discussed how participants found the MMA classes difficult and that by overcoming this difficulty they developed their human potential. The physical part of the classes was not the only difficulty, they also had to overcome the intimacy of BJJ and the aggression of striking. Overcoming this adversity became another tool for developing their human potential.

10.4 Reclaiming Control: Reduction of Co-morbidity through MMA

In 8.5, the prevalence of SUD in participants' lives was described. Decades of evidence show the high occurrence of SUD among the homeless populations (3.5). Therefore, the number of participants who had experienced issues related to substances was unsurprising. There is a definitive overlap between SUD and homelessness. Hence, why the application of RC is so relevant, with its explanatory power in the field of SUD already well established (5.3).

Recent statistics show that around 1 in 9 people (11%) who start treatment in England have a housing problem and a further 5% have an urgent one (Office for Health Improvement & Disparities , 2023). For individuals with opiate issues, the amount with a housing problem is 17% with an additional 13% of people with an urgent one (Office for Health Improvement & Disparities , 2023). This aligns with the established research on opiates and their relationship with human difficulty, housing decay, and poverty (Pearson, 2001; Bourgois & Schonberg, 2009). All participants who disclosed SUD managed to reduce their substance intake or reach abstinence. Any reduction or cessation cannot be solely attributed to the MMA classes; however, they put a strong emphasis on how MMA contributed to their recovery. Two questions in the BARC directly mention SUD (see Table 5). They are the domains ‘Deprioritising Substances’ and ‘Fulfilling Activities’. Developments in both are suggestive of increased human capital (Table 5). Table 6 in 7.3 shows participants' mean scores for both questions from the initial to the last time point of BARC completion. The results indicate a significant increase in scores and strong effect sizes, suggesting a positive impact of MMA on reducing SUD and human capital. This evidence was substantiated during

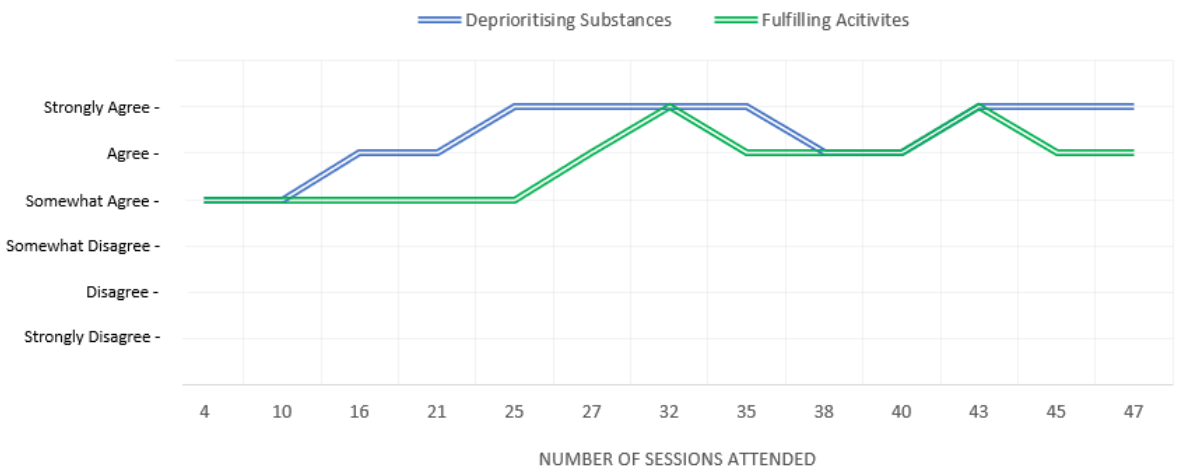
interviews, and the findings are consistent with other research which documents the positive impact of PE on drug-related outcomes (4.1). These positive effects are attributed to the skills learned during the interventions, which extend beyond the intervention period (Burling et al, 1992; Sherry & O'May, 2013; Dawes et al, 2019; Malden et al, 2019; Bates et al, 2023).

Finley's polysubstance abuse of cocaine, ecstasy, and marijuana was to medicate for mental health issues (8.5). During an interview, he spoke about how MMA empowered him to fight social pressure to use drugs.

> **Finley**: *"With the drug abuse and things like that … it's meant that I have … a good outlet. So, it's like I'm comfortable in myself, so it's good that I can advocate for myself. Say before … it was a lot of social pressure for like drug use and things like that. And then that went on to … solo use. Whereas say, if I was in a similar environment, I'd be able to say no because [I'm] feeling more confident in myself, feeling more comfortable in myself. It's like, I'm at a point where I can say no and I can set boundaries and feel like that I can choose a different path..."*

The ability to refuse substances is indicative of human capital and increased autonomy. Developing human capital through MMA impacted Finley's ability to resist social pressure and is an alteration to his previous habitus. Figure 13 highlights Finley's development of human capital as he progressed through the MMA sessions. While his initial scores were not particularly negative, they still showed an increase as he attended more MMA sessions.

Figure 13: *Line chart: Finley's response to BARC Deprioritising Substances and Fulfilling Activities as they progressed through MMA sessions (both suggestive of human capital).*



Line chart depicting Finley's responses to BARC Deprioritising Substances and Fulfilling Activities at various time points throughout MMA training. Overall, this indicates an increase in Finley's human capital, correlating with the number of MMA sessions he attended.

To power to resist social pressure was shared by others. Jason had a long history of SUD. Like Finley, his use was to medicate for mental health issues with him having a diagnosis of schizophrenia and PTSD, a result of traumatic events (8.4). MMA helped him realise he did not need substances.

> **Jason**: *"The biggest step for me now that I've changed, is the reminder that I don't need drugs and alcohol. They don't serve a point in my life anymore. When you come to that realisation, you're ready for the next step, but you really can't do that by just talking. And that's why it genuinely was a big, big help the MMA group."*

Jason was empowered and gained increased agency through MMA and was able to advocate for himself in social situations where he could be encouraged to use drugs again.

> **Jason**: *"I recently, for example, went away to do a tour, which I shouldn't have done in hindsight, but I'm glad I did. I used to dance and things like that. I hadn't done it for years because I had drug problems, and stuff, and I wanted the money, and I stupidly said yes to go away, it was in Holland. This was recent, and I went. And every single guy, there was 4 guys, and they was all just taking drugs. And I couldn't believe … I'd told them beforehand; I'd let them know. I said look guys if you want to do this and that, that's fine, but I'm just going to walk away."*
>
> **Mark**: "*You want to be away from it?"*
>
> **Jason**: *"Yeah, I was like, so if I do that, I'm not being rude, you know all this. I should've just not put myself [in there] it was a silly … stupid thing to do, but it was literally in my face and for the first time in my life my reaction to it was just, I didn't wanna take it. And it wasn't like I wanted to, but I didn't, I just didn't. There was nothing there and I realised. Now, unfortunately, I did drink … and that was another thing that when I came back, I thought, oh right, now I've got to split my addiction and think what's alcohol serving. But the thing is with drugs is that you take drugs not just cos you're an addict, it's because it fills something in your life and I feel like since … learning … about my past and going into aspects and doing things like going to that MMA group, what it gave me [is] the strength to actually do is, and I know it's something that comes up, but the peer*

pressure side. I left early. I left. I did one show, it was supposed to be all week, but I just came home."

He described how the human and social capital gains made through MMA intersect to empower him to resist using substances. Dawes et al (2019) found that engagement in a social exercise group can reduce feelings of loneliness and foster the development of supportive friendships, which can reduce drug use amongst homeless populations. Jason is an example of this as it was the strength he gained from being part of the community that enabled him to be able to change his habitus and direct his own choices, demonstrating improved autonomy.

Jason: *"But I was confident, because I knew, no screw you, I'm not on my own, like this isn't like, oh you're on your own and are isolated. Because it reminds me of stuff like being in that MMA group, because you know there are people who would do the same thing that I'm doing now. You know, you guys are all just active drug users, which I get, no judgement, but for me it was nice, and those types of groups are exactly what you need to remind yourself that you're not alone. … I didn't have this feeling of … exclusion. It was a feeling of strength and pride."*

The community built through MMA was described in 10.3 with its statistical significance being demonstrated in the BARC analysis (Table 5). Veseth et al (2022) note the importance of building communities that acknowledge the various ways that people can lead meaningful and good lives. Participants who attended MMA recognised that they could lead good lives without the use of substances and Jason was able to draw on this strength. Furthermore, Goshorn et al's (2023) emphasis on the significance of recovery communities applies here. As participants started engaging more with the

world and had less contact with recovery services, being part of the community impacted their habitus and altered their thought processes when tempted by substances. Aaron relates to this when he spoke about the power of MMA in preventing him from returning to negative social circles.

> **Aaron**: *"I think I'm a better person than I was. And I think … after that relapse, I realised a lot of things and cut quite a lot of people out my life and sort of focused on … meeting new people and stuff like that. And like it has been hard, but I think the MMA has kind of helped ... Makes me think … like sometimes … I have weak moments and I'm like, oh, I should go back to all these old people and tell them sorry, and … go back. … Like, sort of … dishonour myself … but the MMA keeps me focused. I always remember … when it comes to a Wednesday, I always think … oh, look you're learning MMA. You're learning a new skill … don't go back to the person that you were. It keeps me going."*

Oscar fell into chaotic substance abuse following a succession of traumatic events (8.5). This included a complete breakdown of his family (social capital) through the death of his parents and being accused of playing a role in his brother-in-law's suicide (8.2). In 2017, he experienced issues with his bowels (physical capital) and a visit to the doctor prompted him to start engaging with support services.

> **Oscar**: *"… I remember, I didn't like the doctor I went to see. I think it was back in 2017, because he basically says, oh, Oscar, mate, you've just turned 40 you need to get your life back together and you can't carry on like this. And I'm just thinking, you seem to come across … a bit judgmental. … One of them guys who thinks … oh you gotta pull yourself up by your bootstraps and get on with it, maybe that was his approach, I don't know. But I remember ... leaving [the]*

doctors thinking, I don't like you, and you're not telling me what to do, blah blah blah. And just thinking, yeah, you're a bit of an arsehole, that's what I was thinking"

Mark: *"And then what was it then you had to go to Sidney (recovery service)?"*

Oscar: *"Yeah, I think I googled them actually. I don't think the doctor referred me there. I remember the doctor gave me a number for SAS which Is now Project 6 (recovery service), but I … think I came across Sindey Street either via SAS or me googling it. I honestly can't remember."*

Negative experiences of primary care are common among the homeless and individuals with SUD (O'Carroll & Wainwright, 2019). Oscar obtained information about a local drug and alcohol treatment service on his own after a negative experience with a doctor. He said he *"did most of 2017 clean"* but found it *"extremely difficult at first"* to stop. This was due to the physical withdrawals from alcohol.

Mark: *"What was it like, the withdrawal?"*

Oscar: "*Awful. Absolutely horrendous. Yeah, it's like shivering shakes and sweating and not being able to focus. I couldn't tie my shoelaces."*

Mark: *"Fuck. Yeah, I think you told me that actually, yeah, yeah. How long does that last?"*

Oscar: *"Oh, probably on and off for a few days. Yeah, the first three or four days were the worst definitely and then you just can't function or think straight or anything."*

Completely stopping alcohol consumption with AUD can be life-threatening because of the withdrawals. Medically assisted withdrawal commonly forms the initial part of treatment (Day & Daly, 2021).

Mark: *"Fucking hell. Could've definitely killed you, couldn't it?"*

Oscar: "*Oh definitely, yeah. I'm so lucky to be alive".*

Once Oscar had survived the physical withdrawals, he then had to focus on the mental aspects of his recovery which he viewed as the most difficult. He said, *"The mental is the thing that I'm always going to have to work on"* adding, *"I think now till the day I die"*. During an interview, I asked Oscar to expand on the mental challenges of his recovery.

Mark: *"…what is the mental stuff then, what is it that you have to work on with it?"*

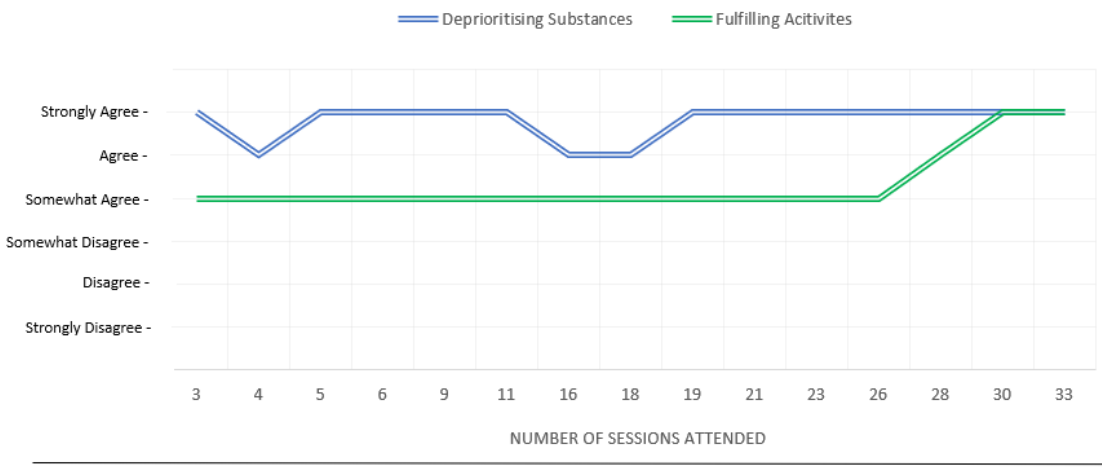
Oscar: *"Well, you get all types of intrusive thoughts. Creeping thoughts. You have to be constantly reminded why you're an alcoholic. So, it's like it's raining il have a drink. It's hot I'll have a drink. It's, oh yeah, that that would be a nice reward. I'm in a better place now in my head, maybe I can just have one or two, and before you know it … you're back to square one again. You're back to … a full bottle a day and then you're thinking again, few lines and all the rest of it, and you think, oh, I'll just try this I'll just try that."*

Consuming alcohol was engrained into Oscar's habitus. This has resulted in relapses and lapses. A relapse is a return to severe and prolonged patterns of drug abuse, whereas a lapse is brief and temporary (Mohseni, et al., 2022). Oscar relapsed at the end of 2017, close to a year of being sober.

Oscar: *"I'd say the big relapse was just at the end of 2017 up until January or February of 2022."*

Oscar started attending the MMA classes in July 2022 after being sober from February 2022. Since attending the classes, he has lapsed twice. Each lapse lasted a couple of weeks. These dips are visible in Figure 14 which highlights a slight decrease in Oscar's score for Deprioritising Substances on the BARC.

Figure14: *Line chart: Oscar's response to BARC Deprioritising Substances and Fulfilling Activities as they progressed through MMA sessions (both suggestive of human capital)*



Line chart depicting Oscar's responses to BARC Deprioritising Substances and Fulfilling Activities at various time points throughout MMA training. Overall, this indicates an increase in Oscar's human capital, correlating with the number of MMA sessions he attended.

One lapse was due to Oscar seeking enlightenment through micro-dosing[18] with Magic Mushrooms, a phenomenon which has become increasingly popular in Western societies (Cameron et al, 2020). He thought that he *"found this magical drug that made me feel better"* until he got a *"drunk feeling"* rather than the *"trippy feeling"* he was

[18] Regular ingestion of small quantities of psychedelic drugs with the intention to produce general health and wellbeing benefits (Polito & Stevenson, 2019)

seeking. This ended with him lapsing and consuming alcohol. The other occasion was due to finding an opioid-based prescription medication that was his friend's when helping him move flat.

Oscar: *"Well, one of the lapses was … I forgot what you call them now, they've got opium in them. I was helping my friend James move out of his flat. There was some codeine-based tablets so I took them … I don't know why I took them, actually, I remember finding them in his shirt pocket and thinking, well I best keep these away from, James (laughs)"*

Mark: *"How come you thought keep them away?"*

Oscar: *"Because he's an addict as well (laughs) and I'm thinking oh yeah, he won't want these I'll do the right thing, and then of course I kept them fully knowing I was going to take them. And I did of course."*

Mark: *"And you count that as a lapse, even though that's not one of the drugs that you sort of…"*

Oscar: *"No, because after that I did end up getting some drink as well."*

Mark: *"Oh, did you?"*

Oscar: *"Yeah, because it kind of puts you in that mood doesn't it"*

Mark: *"Does it?"*

Oscar: *"Well … you've lapsed now, you may as well go and have something you really want."*

Mark: *"And that's drink every time?"*

Oscar: *"Yeah."*

Both scenarios where Oscar reverts to problematic drinking are examples of his former habitus kicking back into action. The nature of his addiction means he is inclined to return to alcohol regardless of what substance he is intoxicated on. During each lapse, he continued to come to MMA.

> **Mark**: *"Because you even had that week when you lapsed, and you said you hadn't been to anything"*
>
> **Oscar**: *"Yeah, but I went to MMA"*
>
> **Mark**: *"Why do you think that is?"*
>
> **Oscar**: *"I think it's because I was trying to kid myself that I could still function … I was only having Wednesdays … I wasn't having magic mushrooms, just on that day, because I was going to SAS and that was the day I was doing MMA … So … to kid myself that I can still function … that could be my day when my pupils aren't dilating, and I can get away with it. …"*

Oscar states that on the days that he trained MMA, he was sober. These lapses were short-lived and in January 2024 he reached 18 months sober. This does not suggest that MMA alone stopped him from using substances, but by attending the sessions he was able to continue making developments to his RC rather than isolate himself, which had been the case during past substance misuse. Through increased RC his perceptions of substance misuse were altered. He recognised that using drugs in moderation was not something he would be able to do.

> **Oscar**: *"For me, there's gotta be a clear line, there's no you can just have one or two, it's gotta be a clear absolute zero"*

This realisation is an indication of improved human capital as Oscar has a conceptual understanding of his recovery needs. In section 4.1 the positive effects that PE has on SUD in terms of consumption or complete abstinence was demonstrated. Findings from participants support the research in 4.1 as participants reduced their consumption. However, the reasons why participants reduced their use aligns with continued research on the benefits exercise interventions have on improved self-efficacy and behavioural processes (Kemter et al, 2024). MMA motivated participants to reduce their substance consumption due to the belief it would impact their ability to take part in the classes.

> **Oscar**: *"Because you think obviously if you start going back there then you probably can't go to MMA again"*

Sherry and O'May (2013) observed similar in their research on the HWC where participants saw exercise as a replacement for engagement with drugs and alcohol. Oscar believed that if he relapsed, he would not be able to attend MMA classes, which were meaningful and fulfilling to him because of the capital gains he was making, as covered in previous sections. This is supported by Figure 14 and Oscar's increase in human capital through the 'Fulfilling Activities' BARC domain. This echoes research by Magee and Jeanes (2011) and Gregg and Beddard (2015) whose homeless participants saw the avoidance of drugs as being key to engaging in exercise. Furthermore, within combat sports a healthy lifestyle free of substances is viewed as crucial for success (Wacquant, 1992) and the Gracie philosophy that underpins BJJ (2.2). Eva shared a similar sentiment, stating that using drugs again would mean she could not attend sessions that provided so much to her.

Eva: *"I know that, honestly, one drink, one smoke, anything, I would go straight back to being the person that doesn't come to those sessions."*

…

Eva: *"So even when I'm fucking really struggling, like, still coming to the MMA class, even if I know it's going to be like a piss poor performance from me, just go anyway … Staying in touch with people … And I think just because I love it so much … it would really upset me if I lost all this physical exercise stuff from the MMA. Especially the MMA because I've come through so much … in my mind with it … if I lost that because I justified … one hit or whatever, it would just be shit"*

Eva overcame barriers to fully immerse herself in the MMA classes (10.3). Due to overcoming adversity, MMA was special to her and something that she did not want to lose.

Other changes in health behaviours occurred. Craig would often fuel himself for MMA by eating carrot cake. It was suspected that his diet was contributing to the nausea he experienced after an intense session (10.1).

Craig: *"I can remember … like the first couple of weeks I was … being sick afterwards. Like … constantly sick … not as I was doing it but just straight afterwards."*

Mark: *"Yeah, yeah, I remember them. I forget that. That happened a lot. It doesn't happen anymore?"*

Craig: "*No. I mean that that was one of the main barriers and … that's something that could have … took me away from it cos I was thinking that if I*

go there and do something physical, if I do something physically am I going to be sick all the time? Am I going to be getting this acid reflux that I seem to be getting all the time? But by speaking to Chris (MBC Coach) and by speaking to Liam … getting the professional knowledge of what they think … like cutting out this and adding this, doing this … physically I'm getting a lot more … and building myself up slowly.

Craig was advised by MBC staff on changes he could make to his diet to reduce the chances of him vomiting. He took this on board and vomiting ceased.

Positive changes in body composition were also observed and reported by participants. Finley's medication for his mental health caused weight gain (9.2). Through MMA he was able to reduce his weight.

Finley: *"When I started this class, I was 95 kilogrammes and now I'm 74 kilogrammes."*

Mark: *"Ok, now that's a lot."*

…

Finley:"*And like since March, I've lost 10 kilogrammes. So, because that's when I had surgery. … So, it was 10 kilogrammes from when I started the class, so October to like end of February. October to February and then from March to now another 10 kilogrammes. So yeah, in a year I've lost 20 kilogrammes."*

Mark: *"Yeah. Have you ever looked at what … your ideal weight ranges are? Have you worked that out?"*

Finley: *"When I started exercising, I was obese like in terms of BMI. And now I'm in the healthy weight range, I think. My top healthy weight range is 71*

kilogrammes, so I'm very close to it. So, like I'm just in the overweight category. So, I've gone down in terms of from obese to overweight and I'm so close to a healthy weight in terms of BMI standard. I know that's not the gold standard"

Weight loss was important to Finley as it allowed him to undergo surgery for gender transition as it had been a barrier to operations. When he returned to training with us after recovering from the surgery, he noticed the weight loss converted to muscle gain

Finley: *"… and like with the weight loss then became like muscle gain, which really helps … with me feeling comfortable in myself and … my gender and things that"*

The weight loss not only improved his physical capital but boosted his confidence and comfort in his gender, highlighting a profound impact on overall wellbeing and self-realisation. This aligns with Roessler's (2010) research which linked positive body perception with improved self-confidence. Landale and Roderick (2014) then frame this as an identity transformation that can lead to desistance from substances showcasing improved human capital.

In contrast, Eva and Stacey were encouraged to eat more. Eva had anorexia when she was younger and continued to have an unhealthy relationship with food in adulthood (8.4). She went on to participate in other MBC programmes and was advised on her diet.

Eva: *"I had anorexia when I was younger … it was really bad, and I spoke to Chris (MBC Coach) about it. I was just like, 'How much should I be eating?' Because I was so scared to increase it and I'd had a really bad session and then Chris just gave me a number and I was like, ok, cool, somebody that I trust has told me I can eat, I can eat now"*

Food was now an important resource for Eva and her perspective changed.

> **Eva**: *"…a lot more relaxed and a lot less self-conscious, which is weird cause I've actually probably put weight on. Erm, but you know, it's just chill"*

Stacey too had a poor relationship with food. For her first few sessions, she would not eat because of the anxiety she experienced from leaving the house, a product of her PTSD (8.4). This changed as food was needed if she was to continue exercising.

> **Stacey**: *"I'm eating, I'm having 3 meals a day."*
>
> **Mark**: "*Again, I want to talk about that more because you told me a couple weeks ago that you had actually managed to eat before you came to a class."*
>
> **Stacey**: "*Yeah"*
>
> **Mark**: "*So, you didn't eat much did you. Was that because of the anxiety?".*
>
> **Stacey**: "*Yeah"*
>
> **Mark**: "*But you've started to be able to get food down you now?"*
>
> **Stacey**: "*I'm having 3 meals a day every day. So, I've got energy for all [the] dancing and exercising I'm doing at home (laughs)"*

Eva and Stacey's experiences with food illustrate a shift in perspective towards fuelling their bodies to support them physically.

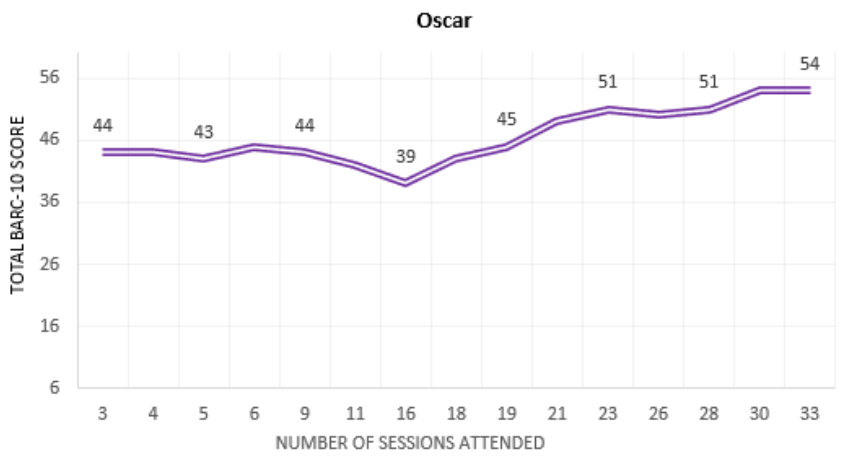
In summary, the testimonials of participants underscore the holistic impact of the MMA classes. Not only did participants address their SUD, but the MMA classes provided a supportive environment for individuals to address interconnected issues reflecting the multifaceted nature of recovery. The classes serve as a beacon of hope for individuals to increase their RC and reclaim their lives from adversity.

10.5 Restructuring through MMA: Capital Accumulation, Habitus Transformation, and a Brighter Future

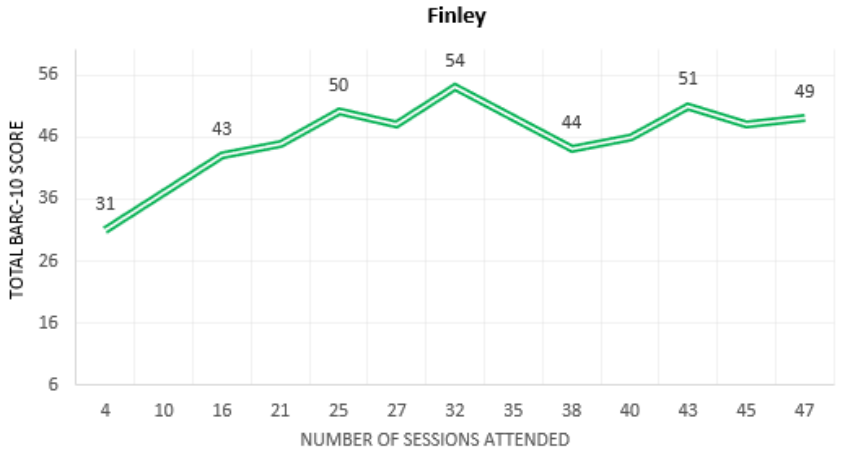
Stacey: *"If I hadn't come to MMA I wouldn't be where I am now. I'd still be at home. I'd still be seeing in black and white. … Without MMA, I'd still be screwed. I know, 100%. And it's sorted my head out as much as it has helped my physical health. If not more my head. I feel like I am a better person for it"*

RC accumulation through the MMA classes has led to positive changes in participants' lives. Figure 15 demonstrates key participants' (7.1) developments in RC, measured via their total scores from the BARC domains (6-60) (see 6.5.3) as they progressed through the MMA sessions. Craig, Finley, Oscar, and Stacey all show substantial increases in their RC that correlate with the number of MMA sessions they attended. This highlights the positive impact of the MMA intervention on their RC. Figure 5 (7.3) represents the statistical significance of the MMA intervention on all participants' RC via a Paired Sample T-Test and Cohen's D effect size. RC scores showed a significant increase ($p < 0.01$) and a large effect size (Cohen's $D > 0.8$). This indicates that, on average, there was an overall increase in participants' RC through involvement with the MMA intervention.

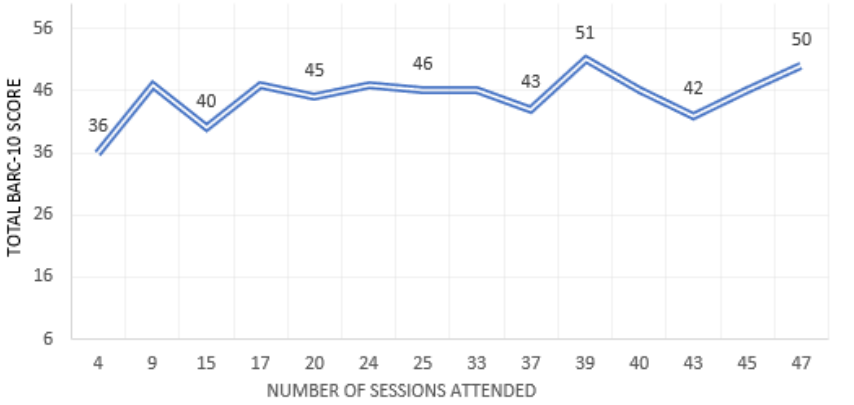
***Figure 15**: Key Participants RC scores from the BARC (6-60) as they progressed through the MMA sessions*



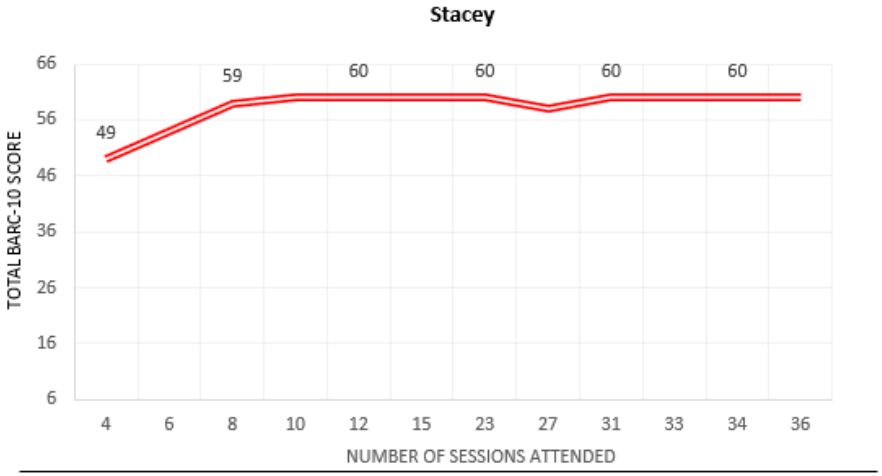
Line chart depicting Oscar's total BARC score at various time points throughout MMA training. Overall, this indicates an increase in Oscar's RC, correlating with the number of MMA sessions he attended.



Line chart depicting Finley's total BARC score at various time points throughout MMA training. Overall, this indicates an increase in Finley's RC, correlating with the number of MMA sessions he attended.



Line chart depicting Craig's total BARC score at various time points throughout MMA training. Overall, this indicates an increase in Craig's RC, correlating with the number of MMA sessions he attended.



Line chart depicting Stacey's total BARC score (RC) at various time points throughout MMA training. Overall, this indicates an increase in Stacey's RC, correlating with the number of MMA sessions he attended.

In 10.4 the importance of Finley's weight loss was discussed. It allowed him to undergo gender reassignment surgery. He describes improved RC empowering him across multiple settings. He attributes these developments to the MMA classes.

> **Finley**: *"It's definitely … upped my self-esteem. It's made me feel more comfortable … taking up space in terms of conversation, in terms of … social settings … means that I'm a lot more … confident. Erm, and like how I see myself in terms of my body as well … I'm a lot more … comfortable with how I look, as before, I was carrying … a bit more weight than I am now. Erm, my fitness as well … I don't feel so self-conscious … swimming and things like that and feeling like people are looking at me … I suffer with anxiety generally, so it's definitely helped with that. And then obviously with the … drug abuse, … it's meant that I have … a good outlet, so … I'm comfortable in myself, so it's good that I can advocate for myself."*

Finley's entry into MMA came shortly after exiting DA (8.3). He described how MMA training has reduced his fear of violence.

> **Finley**: *"But also … when I came to the class, I had just escaped domestic violence and … with doing the class it means that I'm not … so afraid of physical violence. Like, it's definitely been … a mental barrier that I've put in place … that fear and we're doing these tasks and doing it in … different elements of … contact sport, it's definitely helped me sort of overcome that … in a way that I never expected."*

Stacey too had experienced DA (8.4). Before MMA she had spent years battling with her mental health and developed a heroin addiction as a result (8.5). She describes MMA as *"given me my fight back"* after she had *"given up"* for years.

Stacey: *"And just that first class let me know that I'm not dead. If I want to fight I can, all I've got to do is fucking keep coming here and I did."*

By growing her RC through MMA, she says that *"everything has changed for me, my whole life has changed"* and that she feels like a different person.

Stacey: *"I'm not poorly me. I'm separate from her, I'm totally different. And MMA has … made me come back. I must have been a tiny little bit crushed in [the] bottom of poorly fucked up me, and as soon as I got to MMA my voice opened and [I] didn't even realise, I were doing it."*

…

Stacey: *"… if there was a way you could put poorly fucked up me next to me [now] and people could see that change … I think it's quite astonishing. Because most people that I meet now don't know me from when I first started coming. Do you know when I were still having to get him (ex-partner) to come with me on the fucking bus or get a taxi because I couldn't get on the bus on me own, and things like that. They just can't believe it when I tell them things like that. What 6 months ago, fuck off."*

Stacey emphasises the impact of MMA on her life. The murder of her mum (8.1) left her with PTSD (8.4). Stacey loved music and when younger she would often listen to music with her mother. Since her mum's death, she had been unable to listen to certain music due to the negative emotions it would trigger. This changed as her life improved, and she was able to welcome back happy memories

Stacey: *"There's songs that I ain't been able to listen to … like … some of my mums. There's some 60s music that she liked. She was [right] into Elvis. And some of them I can listen to, but there's others that I avoid and now I'm blasting*

them out, singing them, and I'm getting happy memories back. Not just that sad shit about how she died. Happy memories are coming back."

Initially, Stacey's habitus had been shaped by the emotions associated with her mother's death and the music she enjoyed. The avoidance of certain songs was a manifestation of her habitus. However, by boosting her RC through MMA she was able to engage with the same songs. Her habitus underwent a transformation as the act of engaging with the music became a way for her to reclaim these songs and receive happy memories. There was a change in her emotional disposition and the meanings she attached to the music. Stacey believed that her ability to do this was due to the mental fortitude that she developed through MMA.

Stacey: *"It's not only making me body stronger it's making me mentally stronger. It makes me think, it makes me strategize … I don't just jump straight in, I think first now most of the time. And I think that's all down to MMA with training and everything."*

Stressors were still going to be present in Stacey's life. There is no quick fix for the trauma that she had experienced. But through MMA she was acquiring useful tools to deal with stress and emotions (human capital) that beforehand never existed. In the past, stressful situations had resulted in breakdowns for Stacey (8.4). This reflected her habitus that had been cultivated over time. During the research, she had an altercation with another service user at a referral agency music group when trying to organise activities for abstinent people. The altercation distressed Stacey, but she did not allow herself to revert to previous coping mechanisms. I asked her what she now does to cope with situations, and she drew on the altercation as an example.

> **Stacey**: *"I take myself away from the situation … that's why I'm skipping musical club for a few weeks, and if it gets bad and I'm just thinking about shit all time and overthinking things. I'll put [a] bobble back [of] my wrist and start twanging myself again … and I just find a couple of good films that I like and sit and watch them"*

The coping mechanisms Stacey describes are far from her previous mental breakdowns. She said that the other woman *"talked to me like shit"* and that she *"just went quiet"* but was strategic in her approach, choosing to restrain herself in the situation. She said she was *"angry with myself for not doing something different when the situation happened"*; however, she recognised that it was a *"good job I didn't do nout different"* because she wanted to *"get a fucking job there and they're not gonna give me a job if I start shouting at people"*. This is an example of Stacey exercising her RC by being able to think strategically and control her emotions despite her distress. Her awareness of the potential consequences of expressing anger resulted in a decision to restrain herself and demonstrated a social intelligence that aligns with her new habitus. It's indicative of a reconstruction of the self that has been found in previous PA and homelessness ethnographic research (Clift, 2019; Koch et al, 2020)

Other participants described being able to control and deal with their emotions better. Eva explained to me that she has become comfortable with experiencing times when her mood is low.

> **Eva**: *"I think that I don't … struggle with going up … really high, and then down really low, you know, with the general … things that happen in the day. … It's not as deep now, the fluctuations aren't as extreme."*

The BJJ component of the MMA caused Eva distress (10.3). So much so that she stopped attending for a short period. She overcame the difficulty within the class and has been able to apply this skill to the outside world.

> **Eva**: *"Like, I often catch myself thinking now like … I've just had to try and find a new flat and stuff, which was really stressful, but I just had to be like, I can do this … Absolutely socially as well, because I can be quite insecure at times. And so, when I can feel my mind racing off, I'm just like this is not gonna help me achieve what I need to achieve. So … I've become a little bit more black and white, which I think is actually helpful. So yeah, uni work as well … I'll just accept like sometimes things are hard, but I know that I can do it."*

Eva becoming comfortable with experiencing low moods suggests a shift in habitus and increased RC. Over time she has developed a disposition to navigate and accept certain emotional states. She also has confidence in herself to overcome adversity.

While Stacey tactically withdrew from the altercation previously described, she was also able to pick the right situations to advocate for herself. She recounted a confrontation with her neighbour over a nut feeder. The neighbour's grievance was that it was causing rats, but Stacey was adamant the rats were being caused by the neighbour's *"pink Barbie house"* and that she had *"built them a hotel!"*. The neighbour became aggressive, threatening to kill Stacey. She said that her usual disposition would be to retreat, and she would *"have just said 'whatever' and brought it in".* However, she was aware of the impact it would have on her son because *"he likes watching the squirrels"*. She resisted the pressure from her neighbour and called the police to handle the situation. In this scenario, Stacey's increased RC and shift in

habitus were demonstrated as she was assertive. She attributed her capability in doing this to MMA.

> **Stacey**: *"So, I had to stand up for myself, but I probably wouldn't of been able to [do] if I hadn't been coming here."*

Her ability to deal with abusive neighbours transferred into abusive relationships. Having experienced DA (8.4), Stacey's habitus was normalised to abusive relationship dynamics. When she entered the research, she had been in a psychologically abusive relationship for 10 years. Her emancipation from this is indicative of the malleability of the habitus and RC development. The first sessions that Stacey attended she was walked to the referral agency by her partner. He was also a service user of the referral agency being supported for his heroin abuse. I would then meet Stacey, and we would walk to the gym. After the session, I would then walk Stacey back to the referral agency, where she would meet her partner and go home. She ended this relationship two months after starting MMA. She disclosed this to me when I first asked to interview her. She told me that she discovered he was still using heroin, and she ended the relationship. The realisation that her ex-partner was still using was counter to the connections she was making with people at MMA and her improved mental health. She chose to end the relationship, highlighting an evolving habitus. This was the first time that she told me that her now ex-partner had been the one who had introduced her to heroin. A few weeks after this disclosure, I interviewed Stacey and she said, *"I feel like Paul abused me"* and gave further details of the relationship and substance misuse (8.5). She attributed ending this relationship to MMA.

> **Stacey**: *"…how it's helped me head is amazing … I've never had a clear head like this before. As soon as it went clear that's when Paul got fucked off. That's why he didn't want me to come."*

Stacey's newfound clarity of mind through engagement with MMA became a catalyst for breaking free from the abuse. She demonstrated a change in habitus towards valuing mental well-being and agency, and this shift enabled her to recognise and reject abusive behaviour. In a second interview, close to 6 months after the first, it was more apparent to Stacey that she had been abused.

> **Stacey**: *"He wanted to make me like him from what I know … talking to other women … that have been in abusive relationships and everything. I think he just wanted to make me like him, so I'd stay with him…"*

He then stalked her (8.3), leading Stacey to contact the police who intervened. Throughout it all, Stacey remained resolute and cut off contact with the ex-partner despite his attempts to elicit a reaction from her. Her ability to cut off contact, involve the police, and remain resolute in the face of stalking indicates a shift in habitus towards resilience, independence, and rejection of further victimisation. A resilience which had been built in the MMA gym (10.2). She had been emancipated from the symbolic violence that years of abusive relationships had imprinted on her. She now looked forward to a life with *"no nasty nob head men"*. A reflection of a change in habitus regarding future relationships and a desire for a healthier, and more positive life, rejecting harmful relationship dynamics.

Many participants expressed confidence in protecting themselves through MMA suggesting a shift in habitus related to personal safety.

Steve: *"Because you can't avoid it in life. There's always going to be some cunt that's gonna wanna try and it's good for you to know that … whether it is just [a] light session or whatever, it's good for you to know that you've got some familiarity in your mind, that you're practising that stuff. It gives you somewhat of a confidence".*

Practising MMA instilled a sense of control and altered dispositions of vulnerability.

Aaron: *"It's the same … I feel like when I walk out onto the street … I think some of its physical confidence … I do feel … physically fitter, stronger and … more confident about being able to … handle myself and stuff like that."*

…

Oscar: *"… and the self-defence aspect of it as well could always come in handy."*

…

Oscar: *"… and at least I could stand up for myself and have the upper hand definitely"*

Oscar's emphasis on the self-defence aspect of MMA reflects a habitus that values his ability to protect himself. Having lived a life that was dictated by alcohol (8.5), Oscar's disposition of vulnerability was replaced by capability. Erica's reflection underscores a gendered aspect of habitus transformation.

Erica: *"I don't know, I think … it feels quite empowering in many ways … I feel like, I don't know, … sometimes … again when you're … a woman … if you're walking home on your own at night, you will be looking around at people and … I feel like knowing, obviously I'm not going to get into a fight with it … I like*

to avoid that sort of thing, but it just makes it, I think it does make you feel like a little bit like, yeah, no, actually if something happened, I've got an idea of … what I'd do to respond."

Knowing techniques for self-defence contributes towards a sense of agency and security which challenges traditional habits of fear and vulnerability associated with being a woman. It is not that participants wanted to seek fights or thought that they could win a fight, it is that they felt empowered by MMA to protect themselves. Winlow et al (2001) refer to this as violent potential. This is the notion that you do not have to necessarily fight but knowing that you can is empowering. Physical capital combined with violent potential can create an illusion of safety, replacing feelings of vulnerability. Participants were vulnerable people with trauma (see Chapter 8). The key to shedding that trauma is through exposure to a violent field (MMA) where they can develop a habitus of autonomy and the skills to avoid feeling vulnerable. Gaining autonomy frees one to transform their life.

This confidence in personal protection was not just physical and transferred over to improved self-efficacy. Vulnerability was an engrained disposition to Craig due to his autism and periods of homelessness (8.4). He described himself as *"an easy target"* and a potential *"beating board"* because of his short stature and quiet nature.

Craig: *"I think … one of the reasons that I want to … go deeper into it and … take more classes on is because … I've never been one for … coming first with aggression, but I've always had … in the past … people come to me … and have malicious meaning to it … where I've had to try to deal with it and I've not been able to deal with it in a … confident correct way."*

Yet, during an interview, he spoke about how MMA was replacing this perception. Viewing himself as a more empowered and capable individual.

> **Craig**: *"…coming to this class, it's giving me that confidence and thinking well, I can just ignore those types of people and just let it take its own path … instead of engaging in it"*
>
> **…**
>
> **Craig**: *"You can walk down the street and not be fearful … you could just walk down the street and feel comfortable."*
>
> **…**
>
> **Craig**: *"…the reason I'm continuing is because I want to learn something new. I want to be able to … protect … myself out there."*

While Craig was improving his physicality and learning MMA (10.1), this was not so he could be aggressive towards people. Instead, it was to develop mental fortitude to deal with life's challenges in a controlled way. This is indicative of improved RC.

> **Craig**: *"… having this … knowledge … it gives me gives me that confidence, gives me that edge and gives me that confidence … so if I do come across anything that's going to cause me difficulties, I'll be able to deal with it in the correct manner."*

This reconstruction of habitus and increased RC serves as a mechanism to maintain his mental well-being and prevent relapse into past behaviours of withdrawal.

> **Craig**: *"Being able to come to classes that's been put on … psychologically it's able to … keep me above that water. Keep me above that borderline. You know*

… Its able to keep me … just on that borderline … just from sinking to where I … used to be"

Craig's testimonies highlight transformations in his habitus. The integration of MMA into his life serves as a practical example of how habits, dispositions, and responses to challenges can be reshaped through MMA.

Frank emphasised the transformative impact of MMA on RC through improved confidence, self-esteem, and self-worth, highlighting how stepping outside of one's comfort zone can lead to personal growth.

> **Frank**: *"So, a big thing with MMA, and even for me, is confidence. It's confidence, especially if it's someone's first time and they're new to it. It's stepping outside their comfort zone and actually doing something that they don't feel comfortable with. And once they've done it, they feel good about themselves. It builds confidence up and self-esteem, self-worth. All the good things about a personality come to the fourth with MMA."*

Oscar echoes this sentiment, describing how his confidence in MMA translated into a broader willingness to try new things.

> **Oscar**: "*Like confidence, for example … you have confidence, like, when I first started doing MMA, I then had confidence that I can start trying other new things as well. So, your comfort zone becomes a lot bigger. And afterwards, you think, oh yeah, I did do that, I can do that. Yeah, maybe I can do other things. Maybe next week I'll be better. Maybe next week I'll forget it all, but either way, does it actually matter because you enjoy it and you feel great afterwards."*

Oscar's expanded comfort zone, cultivated through engagement with MMA, had an impact on his RC, influencing his aspirations and life choices. The newfound

assurance empowered him to reengage with PA, such as swimming (10.2), and extended to contemplating higher education and improving his employability.

> **Oscar**: *"I've been looking into urban planning and criminology or geography … criminology sounds more interesting than geography. But then I think what's the worst that could happen? I do it, I don't like it, and therefore do something else. It might be like MMA, I might start doing it and then think … yeah, I'll carry on doing this."*
>
> **Mark**: *"Yeah, could be. You never know do you?".*
>
> **Oscar**: *"No. Yeah, take that plunge again and just see where it goes. What's the worst that can happen"*

Oscar's consideration of university reflects a shift in habitus regarding educational aspirations. Influenced by the positive experiences of MMA, he is willing to take a constructive approach to uncertainty by being positive. Having secured money through PIP, [19]Oscar was motivated to make the money count. In the past, when he received a large sum of inheritance after his parent died, he spent it all on substances (8.5). He now has a focus on making meaningful investments which indicates a shift to a habitus that values purpose and direction.

Employment and education as predictors for treatment completion have gained research traction (Defulio & Silverman, 2011; Sahker et al, 2015). While securing a job has been explored as a predictor, Sahker et al (2019) found that securing a job was not a good predictor of abstinence. Instead, improving one's ability to find employment was. Simply, improving employability is better for abstinence than employment itself

[19] A UK welfare benefit intended to help working age adults with a health condition of disability with extra costs of living

due to the process of growth, improvement, and change involved in increasing employment prospects (Sakher et al, 2019). This nuanced perspective aligns with the aspiration previously expressed by Oscar.

Through Jason, we can observe a tangible influence of MMA on professional development. When I interviewed Jason he said, *"Tomorrow I've got an interview for gym manager"* – a role that reflected his reinvigorated passion for MMA and fitness. He had stopped attending MMA as he was training locally and within his time constraints. My subsequent encounter with Jason three months later, where our paths crossed at a new gym, adds an intriguing layer to his story.

> *When I got to the gym, I realised I needed a lock. They provide the lockers but not the locks. If you want a lock, they conveniently place vending machines next to the changing rooms where you can buy one for £5. I messed around for a bit trying to figure out how to use the vending machine. I eventually figured it out, dialled in the digits and waited for my purchase. As the lock slowly approached the moment it should drop, it got stuck. I proceeded to give the machine a few kicks and bangs, but the lock didn't budge. Now, I was in the awkward situation of either paying again or just leaving it. Normally, I would look for a member of staff to come and help. However, this is the issue with 24-hour gyms, often the staff are nowhere to be seen. Whilst I debated what to do, I was approached from behind by someone. "Hello mate", he said as I turned around, "having some issues it looks like". The first thing I noticed was the person was wearing a t-shirt with the word 'STAFF' written across it. I then quickly recognised this person, it was Jason. This took me by surprise. I told him about my problem. Our last interaction was at an interview a few months back. "I'm assistant manager here now, this is my second week", he told me. Our conversation continued as he took*

a key out of his pocket and opened the vending machine door, handing me the lock that felt of reach only moments ago. The amount of time that we could spend talking was limited by his work duties, but it was good to see him and know that he got himself back working, something that he expressed that he wanted to do the last time we spoke. I suppose there is a line that must be towed in the interaction that we had. I recall Jason telling me that he often keeps his addiction from work colleagues, and I have no idea if it's a subject he has yet to broach, or ever will, with his new colleagues. With that said, we didn't even mention the MMA classes or how I knew him, instead our interaction was more like old friends greeting each other when they unexpectedly meet at the gym.

Whether this was the same job Jason was interviewing for when I interviewed him, I do not know. Regardless, Jason's journey underscores how engagement in MMA transcends the boundaries of a training setting, opening avenues for professional growth and career opportunities.

Stacey, Eva, and Finley's stories further illustrate the transformative power of MMA and how it extends beyond the mat and into the professional sphere. They aspired to work with people in recovery. These aspirations demonstrate how personal experiences and transformations can be channelled into meaningful work that benefits others. During an interview, Stacey said, *"Now I'm better I want to be able to help"* and she had a vision of teaching an exercise class in the future.

> **Stacey**: *"Well, I'm hoping that in a couple of years, I'll be working at Sidney Street (recovery service) and I'll be teaching an exercise class for ladies."*

Eva also spoke about her aspirations of working in recovery once she had finished her degree.

Eva: *"Well, I'm going to start volunteering at Sidney Street here soon. And I do work at Tesco, so I've got some income. … I guess I do think realistically the first step will probably be some kind of employment within recovery."*

They both managed to secure jobs at one of MBC's partner referral agencies through voluntary roles at first and then later interviewed for a permanent position. I provided a reference for Stacey outlining her suitability for the role. Finley also secured a job at a referral agency after a successful interview. I proofread his application before he submitted it. Furthermore, Stacey and Eva secured additional work through MBC and contributed to our initiatives. This included facilitating an exercise class for first-year Sociology undergraduate students on a Researching Society module where they experience and research the impacts of an MBC circuit class. Additionally, they both now help to facilitate MBC's MMA classes for women on probation. This exemplifies the profound influence of MMA on an individual's habitus as it guides them towards fulfilling careers that align with their experiences, personal growth, and recovery journeys.

10.6 Analysis Summary

"You win your fight in the gym" (Wacquant, 1992, p.67)

The study's findings indicate that MMA has helped participants develop a sense of agency, serving as a mechanism to regain control and personal autonomy over their lives and replace negative psychological narratives. Through MMA, participants have increased their RC and displayed a transformation of habitus. Data from observations,

interviews, and BARCs have highlighted this. In the beginning, most participants had no prior MMA experience and low physical capital. The emotions that they described in their first session mirrored my own when I first stepped into an MMA gym. Regular participation in MMA resulted in both skill (human capital) and fitness (physical capital) developments. Whilst the speed at which participants improved both their fitness and MMA ability varied, what remained constant was the sense of empowerment they gained from these enhancements. This underscores the concurrent relationship between physical and human capital.

The MMA classes were viewed by participants not just as a meaningful activity but also as a recovery group that facilitated an increase in social and cultural capital. As participants placed such strong meaning onto the MMA classes, they became a motivation to reduce or abstain from substances and engage with other health behaviours due to a belief it would impact their ability to take part. Through MMA, like-minded people attempting to make positive changes were able to meet and build connections. This resulted in improved social capital and friendships being made that extended beyond the MMA gym. Socialisation outside of the gym contributed to the community inside as social connections strengthened. New participants did not just have MMA available to them, but additional social activities that were being organised by participants that they could engage with. As part of the increase in social capital, they had someone to listen to their problems and peer support to deal with life's challenges. Something previously unavailable. Many emphasised the significant role MMA played in their recovery journey and BARC data supported this. The ability of participants to control and refuse substances in the face of social pressure highlighted increased human capital and autonomy. This sense of empowerment stemmed from

being part of a supportive community which enabled participants to change their behaviours and make autonomous choices.

There is a philosophy that underpins martial arts that goes beyond overcoming an opponent. These are social connection, self-control, humility, respect, and the cultivation of human moral conduct into the classes. MBC MMA classes embodied these principles, fostering an environment where participants exemplified these values. Through the development of social and cultural capital, participants improved their ability to trust others (human capital). This trust then extended into wider society and altered habitual thought processes and behaviours. Participants embodied a new and empowered sense of self. MMA training was difficult. But by overcoming difficulties they were able to apply those experiences to the outside world. Through MMA, participants acquired useful tools to deal with stress and negative emotions. They developed the mental fortitude to deal with life's challenges in a controlled way. This is indicative of improved RC. Confidence was cultivated through MMA and influenced aspirations and life choices. The impact of classes was so profound on RC that it guided, and continues to guide, individuals towards fulfilling careers that align with their experiences, personal growth, and recovery journeys. Increasing RC means that those who were either at risk of homelessness or at risk of lapsing back into homelessness, are now less likely to do so.

In summary, the testimonials of participants and BARCs underscore the holistic impact of the MMA classes. They provided a supportive environment for individuals to address interconnected issues reflecting the multifaceted nature of recovery. Magee and Jeanes (2013) voiced concerns that the networks formed through sporting interventions, such as the HWC, may entrench individuals further into homelessness culture rather than provide supportive routes out. However, this was not the case with

the MMA classes, which instead acted as a catalyst for change, helping individuals to increase their RC and reclaim their lives from adversity. The success of these classes can be attributed to several key factors inherent to MBC’s approach. The supportive environment provided by the classes fosters personal growth and stability, while the emphasis on community enables participants to form new, positive networks and relationships both within and outside the classes. Tailored interventions ensure that the program meets individual needs effectively, and the promotion of empowerment and agency encourages participants to take control of their recovery journey. Together, these elements contribute to the MMA class's ability to break the cycle of homelessness and support lasting positive change.

Chapter 11: Reflections on Practice and Implementation

Here, I reflect on important practicalities in running the MMA intervention. These practicalities are summarised in 12.3 as part of addressing Aim 3 of the study. However, it is worthwhile to extract these practical aspects and discuss them in more detail, as they serve as blueprints for future interventions in the field. Firstly, section 12.1 considers participation and methods used to increase it. The Coach (11.2) is then discussed, highlighting the integral role they played. I then explore how we established a safe environment and navigated challenging situations commonly encountered when working with vulnerable adults (11.3), followed by a summary (11.4). This reflection provides important lessons for future implementation and adds to broader discussions on improving interventions for vulnerable populations.

11.1 Recruiting Participants

Attracting new participants was challenging. Low participation at the start of the research was frustrating, and efforts to boost involvement felt difficult. Meetings were attended, presentations delivered, leaflets printed, and guest speeches given at various groups hosted by referral agencies, all to increase participation. The process was not simple. Multiple barriers needed to be overcome with prospective participants and the referral agencies who act as gatekeepers.

The most effective method for gaining new participants was delivering talks at a group session facilitated by a referral agency. Talks lasted no more than 15 minutes. The

opportunity to deliver one was dependent on several factors, not all within control. Strong relationships with referral agencies were needed and these took time to build. As discussed in 6.4, initial attendance to the MMA classes was low during the period of exclusivity we had with a single referral agency. This was a result of COVID-19 restrictions and policies in place that limited contact with service users. Therefore, other referral agencies had to be engaged to increase participation. In some cases, I was able to build upon MBC's already-established relationships. However, as a new face introducing MMA as a new activity, I needed to build my own rapport. The process started with initiating contact. Building these relationships required regular communication and transparency. I actively engaged with the services by organising multiple meetings over coffee with managers and attending staff meetings, where I would present the MMA classes, discuss the research, and the goals of MBC. I highlighted how MMA could contribute to broader goals of social inclusion, mental well-being, and overall empowerment of their service users. This aligned with their objectives, leading to shared goals and fostering collaboration between us. Even after gaining their buy-in, there was still work to be done. Regular communication was maintained, and I remained responsive and flexible to any questions or concerns they had about the MMA sessions. I would break down MMA, ensuring they understood the nature of our classes and how service users would be safeguarded. My experience as a support worker (6.1) helped in building these relationships. I could emphasise with staff and understand some of their challenges. They knew that I had experience working with the community and that helped in building trust. When allowed to present the MMA classes to service users in a group, I was reliant on the group being well-attended to maximise the potential of gaining new participants. This was difficult as post-covid group attendance plummeted in comparison to pre-pandemic numbers.

Before delivering a talk, the information prospective participants would have about the MMA classes came from leaflets that were given to referral agencies to hand out. Although leaflets stated that classes were for beginners, some people excluded themselves because they felt unfit or had never trained in MMA before. Delivering a talk provided an opportunity to provide more details and answer questions. Common questions include: “How old are other participants?”, “Are there any women?”, “Do I need to have done MMA before?”, “Will I be getting hit?”, “Will I be able to join in with my Sciatica?”. With each answer, confidence in being able to participate increased. Numerous people mentioned that they had seen the classes advertised and decided it was not for them. However, after hearing me talk about them, they chose to give it a go. Oscar was an example of this (7.1.4). As the research progressed, I was able to utilise existing participants to gather new ones. For example, Stacey consistently attended MMA and multiple groups across referral agencies. She would attend talks with me and share her experiences, advocating for MMA. I recognised that having prospective participants hear about the classes from someone with whom they could relate and who could provide a lived experience would be an effective way to break down barriers. This boosted participation significantly.

In summary, establishing strong relationships with referral agencies is crucial for gaining direct access to participants. While advertisements such as leaflets can attract interest, they fail to address barriers to attendance. In-person presentations of the intervention allowed immediate responses to questions and provided a clearer understanding, which significantly increased participation. Additionally, involving an existing participant who can share their lived experience is an effective method.

11.2 The Coach

Steve: *"… Mark and … your teachers, and everybody is great they explain it and they're fucking (.) super approachable"*

Johnstone et al (2016) and Sofija et al (2018) stressed the importance of a trainer who can build rapport with participants as key to participation and fostering positive group membership. This was especially true within the context of MBC's MMA classes.

I worked with two highly skilled coaches during the research. Each with different personality and training styles. Chris, the first coach, was a reserved character. Highly knowledgeable and an advocate of the principles underpinning martial arts. Although the time with Chris was relatively short, both me and the participants had a good relationship with him. He invested unpaid time into doing a one-to-one session with me before the MMA classes began, where he taught me how to hold the pads correctly. When Chris told me that he would be leaving his role as coach a few months in, he seemed disappointed, but in life, sacrifices must be made and his promotion in work and additional duties were a priority. When he told participants he was leaving they thanked him for his efforts. I still see Chris on occasion at SS when I am training. Whenever we do meet, he is always keen to know how sessions are going and shows pleasure in hearing about the progress.

I am grateful to Chris as he was pivotal to getting the MMA classes off the ground. Chris was determined to find a replacement and put me in touch with another trainer who was one of his friends, Liam. I already knew Liam, from training with him at SS. On reflection, the transition to Liam as coach was seamless; however, at the initial time of change it was stressful. I was comfortable with Chris and trusted his ability to deliver the classes. I was anxious about the impacts his departure may have.

Participation was already low, and I feared the transition could halt momentum and cause attrition. As soon as Chris gave me Liam's details, I opened communication with him. Contacting Liam was not as easy as I would have liked. It took several attempts to get a response. I asked Chris to give him a nudge. Liam was meant to attend Chris' last session to get a feel for the classes and meet some of the participants, but he did not show up. This caused concern. I had someone I could rely on in Chris and Liam was not coming across the same way. Eventually, I contacted Liam, and we spoke over the phone. From that first conversation, my concerns were eased. He took an immediate interest in what we were doing and apologised for being difficult to contact and missing the session (he had personal issues to deal with). From there, the transition to Liam as coach was smooth. His first class was a hit, and he built instant rapport with participants. Liam's ability to engage and build rapport with participants during his time as a coach has been extremely useful. Steve described him as *"super approachable"* and participants have felt comfortable and safe being coached by him. He has been more than an MMA coach, offering lift homes during winter when it is dark after the class. He also gave additional training advice to participants. For example, Liam helped Craig train for the London Marathon that he completed (10.2).

Liam looked to incorporate participants into the planning of the sessions as much as possible, asking for suggestions and ideas on what they would like to do in future sessions. Most of the time, participants would say they were enjoying them and had no suggestions, but taking their opinions on board offered an element of empowerment and ownership in line with MBC's principles (2.1). Autonomy has always been given in MBC's programmes to coaches to create their environments. What we created in our MMA programme was much different to the typical classes at SS (6.1). Key to this is the ownership that the coach has over the session. I am no MMA expert, I am still a

novice; therefore, I did not attempt to dictate the direction of classes. I would help and make suggestions where I felt my input was useful, but in these scenarios, we are talking about the basics. I was learning just as much as the participants during the class, occupying the space between participant and coach. My rapport with participants has benefitted as a result. My relationship with Liam is different to that of the participants in that we worked together in a professional capacity. Just as my relationship with participants is different to Liam's as I am not their coach. An example of this differing relationship status is that in some instances participants could be apprehensive about asking Liam for extra help in executing a BJJ move. This was most common with new participants. Perhaps they did not feel confident enough or close enough to Liam to approach him, and when classes were busier it was difficult for Liam to be attentive to those who needed extra guidance. However, I had no coaching duties and could be aware of these situations. I could ask if someone was struggling and shout to Liam to come and help. In times when Liam jumped straight into a boxing drill and we had a new participant who had not been shown the technique, I could ask him to show them. This is why the classes worked. The gap between teacher and pupil is filled, and connected, by me. I believe that giving Liam 100% ownership of the coaching increased how much of himself he invested in them. The classes are a part of him, and a place where he can teach and add his own flair to the knowledge that he has accumulated over years of dedication to the sport. Liam has ownership in something that has been a success and for that, he is, and should be, proud.

I could not have asked for a better relationship with Liam. Other than a minor blip at the start, we communicated effectively throughout. Liam came into the role having never worked with this group before. At times I have had to interfere to reduce risk.

Pairing people on the pads is an example, where I sometimes dictated or advised on who should partner with whom based on observations or what I had been told by participants. For example, I would not want to partner a timid person with someone I knew was going to be more aggressive. Nor would I want to partner a woman with a male after they had expressed that they would prefer to work with females only. It was not common that I had to do this, as most of the time Liam was also aware, but when I did, it was never an issue. We have talked openly at the end of classes. Being able to do so has mitigated the risk of any strain on our relationship, especially on the occasions when I feel I am interfering.

On occasions, me and Liam would spend time after the class talking about the research, the progress of the sessions, and individual participants. These chats were always positive, and they gave both of us a chance to reflect on the work we were doing, and the impact made. Craig was the first one from the group who signed up for extra sessions at SS and I recall this being a proud moment for Liam. He hoped others would follow – and they did (10.2). He believed that if we could just help one person, then running the classes was worth it. It is beliefs like this that confirmed my view that Liam was the perfect coach.

11.3 Creating a Positive Environment and Effectively Managing Participants

We needed to establish a safe environment for people to exercise. Sport England approved our MMA classes under the Safeguarding Code for Mixed Martial Arts. Meaning the MMA classes met specific standards and protocols designed to ensure the safety and well-being of participants, especially vulnerable adults. However, MBC's

MMA classes go beyond this, fostering an atmosphere that is inclusive, patient, supportive, and enjoyable.

Humour was an integral part of the sessions. Me and Liam do not take ourselves too seriously. The banter we had with each other was infectious and it did not take long for participants to join in – usually at my expense. Joking with one another created a relaxed atmosphere where social bonding could flourish. Whether it was me taunting Liam for his receding hairline, and Oscar then pointing out my own. Or Finley challenging me to a race during the warm-up and pulling back my shirt when I was certain to win, humour was a powerful tool for creating a positive, productive, and cohesive environment. Other subtle elements also contributed to the environment, such as music. The energy in the class was consistently high, and having music coming through the speakers always lifted the spirit of the workout. Unfortunately, in the early days, we faced technical difficulties which prevented us from playing music. We relied on Finley's adaptor to allow me to plug my phone into the speaker, but when the adapter was lost, we were left with just the sounds of grunts and heavy breathing. This led me to find and purchase gadgets that allowed me to make the connection work. It was more complicated than it needed to be. The difference in having music is significant. It gets the pace going and energises the session. It allows me to bring participants into the classes more. For example, we would alternate the DJ for each session, or I would ask for recommendations. In Dave's first class, I overheard him and Oscar talking about their favourite music and learned Dave liked drum and bass. I asked Dave for his favourite drum and bass song and then played it when it was his turn on the pads – he loved it. This personal touch not only enhances his enjoyment but also strengthens our sense of community and makes sessions more enjoyable for everyone.

MBC prides itself on running inclusive exercise programmes (2.1). Despite encountering a range of disabilities and injuries, at no point has someone been unable to participate. We engaged with participants to understand their capabilities and limitations and then tailored our approach accordingly. If a participant was unable to execute kicks, they did not kick. If sprinting during a warmup was an issue, they did not sprint. If a participant was unable to sprawl [20]in a drill, they would do an alternative that still meant they were challenged during the round. Being able to adjust to incorporate people was never an issue as we emphasised participant ownership and flexibility. Gathering information from new participants on whether they had a disability and/or injury was done discretely, often on the walk to the gym (6.1) or during our first conversation. It was not always clear how someone's injury or disability would affect them in the class. Liam's sports science background proved further useful in these circumstances as he was able to provide insight. If things were still unclear, then we would recommend participants go slow at first and I would check during the session if they were ok.

Mental health required just as much consideration and management as physical health. Due to the violence and resulting trauma in participants' lives (Chapter 8), there was always the chance that the combative nature of MMA could be triggering. Whilst MMA has power to help participants overcome this trauma (10.3), on rare occasions, it has triggered trauma-induced panic attacks. When these scenarios occurred, alongside ensuring the welfare of the participant, it was important to limit class disruption. Due to my experience, I have been able to respond calmly and compassionately. Distressed participants removed themselves from the situation and

[20] A defensive wrestling technique in which a fighter quickly moves his legs backward and out of the way of an opponent shooting for a takedown, while landing his torso on the opponent's back to foil his attack.

I would give it a moment before approaching them. My interactions with them in these moments were to reassure and allow them the time they needed to calm down. One situation involved a participant having a trauma-induced panic attack as they practised having their hands up to defend punches. They took themselves away from the class and I allowed a moment to pass before I offered support. In this example, the only support they needed from me was the reassurance that it was ok for them to take time away from the session. She later returned to the class but only to observe. The next week they came back and participated without incident. Other participants would offer support. The social connection they had with each other (10.3) and their own experiences of trauma meant they were sometimes better placed than me to offer support. Just as alternatives were offered to cater for physical impairments, they were also offered to limit psychological distress. As covered in 10.3, some participants did not feel comfortable training BJJ. In those scenarios, they would be offered an alternative. However, we provided a controlled environment for them to gradually expose themselves to that trauma which had a profound impact (10.3) and highlights the power of MMA.

Working closely with referral agencies meant that sometimes details regarding risk management were disclosed for safeguarding purposes. One example is a support worker informing me that a participant could be inappropriate towards males. She was vulnerable, having previously found herself in dangerous situations due to this behaviour. Her behaviour was being managed within a supported housing setting and now needed to be managed in the MMA gym. Therefore, I needed to be aware of it. Managing relationships and boundaries was part of the participant's support plan. The support worker once called me before an MMA class. They had just met with the participant and shared concerns over what they were intending to wear to MMA,

feeling that it was inappropriate. There had been no issues with the participant over the several months they had been training, but with this safeguarding knowledge, I was now aware of their clothing. Whilst their clothing would not be out of place in a commercial gym, it was not the normal attire you would find at an MMA gym. I had a conversation with the participant during the class after I was made aware. This was a difficult conversation to have due to its sensitivity and awkwardness. My approach was to be clear about the rules of the gym rather than criticise them. The following week they returned in appropriate clothing and the issue never presented itself again. Whilst participants were not my clients to support, when they were at the MMA session there was a duty of care. Because of the collaboration I sought to have with referral agencies (11.1) and the emphasis they placed on the MMA classes as being part of the support they offered service users; safeguarding issues were disclosed to me. This then allowed me to incorporate any intricacies in their support needs into the MMA classes and contributed towards a multi-agency approach.

11.4 Chapter Summary

Each section included in this chapter can be used by future researchers in the field to inform exercise interventions that target vulnerable adults.

Building strong relationships with referral agencies is crucial for securing direct access to participants and addressing attendance barriers. Advertisements, such as leaflets, may generate initial interest but often fail to tackle deeper issues that affect participation. In-person presentation of interventions, which allow for immediate question-and-answer sessions, greatly improves engagement. Additionally, involving

current participants to share their personal experiences can significantly enhance participation rates.

The expertise of professionals, such as Liam in MMA, combined with my experience of working with vulnerable adults, was key to delivering an effective intervention. Trainers who establish rapport, demonstrate patience, and provide support are essential for fostering group dynamics and motivating participants. Allowing coaches full ownership and autonomy in their roles not only boosts their commitment but also ensures a tailored and dedicated approach.

Creating a positive environment goes beyond ensuring the safety and well-being of participants. It requires promoting an inclusive, patient, supportive, and enjoyable atmosphere that meets the specific needs of the target group. Having the capability to adapt to participants' needs is essential, and prior experience with vulnerable populations is invaluable for managing challenging situations and ensuring that the intervention is both effective and empathetic.

Chapter 12: Conclusion

This final chapter summarises my key findings to the research aims outlined in Chapter 1, highlights my original contribution to knowledge, and makes recommendations for future research, policy and practice. The chapter is presented using my research aims as subheadings, followed by critical reflections (12.4) and the future direction of the study (12.5). Not only have the objectives of this study been achieved through its successful completion, but the wider objectives of MBC (2.1) were also accomplished.

12.1 Aim 1 – Implement tailored sustainable MMA classes, adding them as an activity to MBC's existing repertoire

I identified MMA as an exercise intervention before starting the research due to its physical, mental, and spiritual benefits (2.2). Homeless, or at risk of homelessness, individuals were chosen as the target group because of my previous work experience (6.1). Research which highlighted the lack of tailored and targeted exercise interventions for this demographic, further informed my decision to focus on this group. Due to the combative nature of MMA and the physical (3.6.1) and mental (3.6.2) health challenges homeless individuals face, any MMA intervention must be tailored to meet their specific needs. While there are multiple MMA gyms across Sheffield where individuals can train, classes are not specifically designed with this population in mind and may lack the necessary expertise. MBC provided this expertise and were crucial in facilitating the implementation of MMA classes specifically tailored for homeless adults.

In line with my ethnographic approach, my desire when completing this project was to create something that continued beyond the research. The key to this is funding. Sheffield Hallam University (SHU) grants a certain amount of money to PhD students throughout their years of study. I withdrew the entirety of that money in my first year of studies to fund 18 months of MMA classes, and purchase equipment for the gym. Before this money expired, I participated in a powerlifting competition and completed the National Three Peaks Challenge [21]with friends to raise further funds so that classes could continue. A total of £2400 was raised. This allowed more time for me to gather data due to COVID-19 delays and, most importantly, ensured that classes continued for the participants. As the research progressed, I shared findings with referral agencies, and they have observed the positive impact MMA has had on their service users. This resulted in external funding from stakeholders, enhancing the sustainability of the classes. The upcoming addition of Muay Thai classes for women, funded by a referral agency, represents an expansion of the MMA sessions.

I plan to remain involved in the MMA sessions, though my hands-on role will reduce as my career progresses and I become distant from Sheffield (see 12.5). I have prepared for this transition and am confident that there is no longer a need for me to be a constant presence for the classes to run successfully. Referral agencies have embraced the MMA classes, and they have become an integral part of what they offer to service users. Participants like Finley, Stacey, and Eva now work for referral agencies (10.5), meaning they are embedded within these organisations and have taken on the roles of recruiting new participants and explaining the classes to staff – tasks previously my responsibility (11.1). Part of Stacey's role is to engage service

[21] The National Three Peaks Challenge involves climbing the three highest peaks of Scotland, England and Wales, often within 24 hours.

users in MMA. She arrives at classes with a list of names of interested individuals and waits outside to welcome them into the gym. At the end of a session, she takes a register to feedback to her managers. These were tasks I once handled, but now the torch has been passed to participants who advocate for MMA because of the powerful impact it has had on their lives.

To the best of my knowledge, as was the case at the start of this PhD, there are no other MMA interventions targeting homeless individuals in England. MBC stands alone in this innovative approach. The success of the MMA classes has garnered widespread media attention, featuring in the Big Issue (Appendix 10) and BBC Look North. This visibility highlights the intervention's impacts and is a testament to its effectiveness. My approach represents a significant original contribution to the field of exercise interventions for homeless individuals. It demonstrates that combat-based sports can be adapted to provide therapeutic benefits to this group. The work opens the door for further research and practice in using MMA as a means of supporting and rehabilitating marginalised groups. I hope that by hearing and seeing the success of MBC’s MMA classes, other organisations will be encouraged to follow suit and utilise the power of MMA. The replication of this model could lead to widespread benefits, providing vulnerable individuals across the country with access to a unique and effective form of exercise intervention.

12.2 Aim 2 - Measure and explore the impacts of weekly structured MMA classes on the RC of homeless individuals, or those at risk of homelessness.

In chapters 8-11 the past, present, and future of participants' lives were analysed through the RRCM lens via observations, interviews, and the BARC. In Chapter 8, participants' pasts and stories of capital depletion were highlighted. Decreases in capital were related to trauma (human capital), poverty (economic capital), violence (human capital/physical capital), social exclusion (social capital), mental health (human capital), and addiction (human capital/physical capital), impacting participants habitus. For some readers these stories will have been difficult to digest; however, the details provided were necessary to allow full comprehension of their impacts on capital and habitus. Chapter 9 then notes how severe depletion of capital was characterised by homelessness, SUD, and suicide attempts, indicative of a loss of autonomy. Combining all accounts described in Chapters 9 and 10, and considering RC, it became clear that participants' stories aligned with the RCCM framework. Chapter 10 is then a tale of capital accumulation through MMA. Low physical capital formed part of participants' stories and was due to residing in the field of chaos. Findings highlighted the significant positive impact that the MMA interventions had on physical capital. Developments in physical capital were intertwined with other capital gains, transferring into aspects of participants' lives. The profound impact that the MMA classes had on participants' RC is outlined. Increases in capital were related to social connection and forming friendships (social capital); community belonging (cultural capital); improved confidence, self-efficacy, mental well-being and reduction in SUD (human capital); entering employment or gaining qualifications (economic

capital/human capital). Accumulatively this resulted in overall increases in RC and habitus transformation as participants reconstructed their damaged selves and reclaimed control over their lives.

There are multiple implications of these findings. Firstly, it adds to the limited research which has applied RC to homelessness, demonstrating that the model works. Whilst RC has been applied to homelessness it has never been done within an exercise setting. Even more specifically, an MMA setting. Therefore, this research provides an original contribution to knowledge as it is the first study that has objectively measured the impacts of MMA on homeless, or at risk of homelessness, individuals' RC. It is also the first study to apply the RRCM to homelessness. Based on these findings, research should continue to discover more about the impacts of MMA on RC for vulnerable groups and propagate the RRCM.

Future research should now seek to go bigger and bolder. Increasing the sample size would offer a greater representation of the homeless population. More emphasis on quantitative data collection would be better placed to inform practice and policy at a larger scale. The research demonstrates the importance of interventions that incorporate PE in the accumulation of RC for homeless individuals. Interventions to promote an active lifestyle for homeless individuals are few and far between. This research now adds to the limited evidence base discussed in Chapter 4 and provides further justification for targeted exercise interventions. The power of exercise is recognised as an effective combative tool against homelessness. However, more money into provision is required and services need to be empowered to promote PE and PA to their service users. This promotion needs to go beyond advocating for exercise simply for physical capital developments. Messengers need to be equipped

with the knowledge of the concurrent relationship between physical fitness and its wider impacts which this research highlights.

12.3 Aim 3 - Develop practical recommendations for future exercise interventions targeting vulnerable adults.

This aim was successfully met in Chapter 11. Based on reflections from the research, these recommendations provide actionable insights into implementing exercise programs tailored towards vulnerable populations. They are grounded in practical experience and evidence. Below, they are broken down into easily understood points:

- Building strong referral agency relationships is crucial for accessing participants.
- In-person presentations with Q&A sessions and sharing personal experiences from current participants are effective in boosting engagement and participation.
- Professional expertise in delivering tailored, inclusive exercise classes and experience working with vulnerable adults is crucial. This expertise can come from multiple people working collaboratively.
- Effective trainers are those who build rapport, show patience, and offer support that extends beyond the intervention.
- Granting coaches/trainers full autonomy boosts their commitment
- Promoting an inclusive, patient, supportive, and enjoyable atmosphere is key for participant retention.
- Adaptability to various disabilities and past traumas is essential.

- Ensure the intervention is both effective and empathetic.

These recommendations can be used to guide and design the implementation of successful exercise interventions for vulnerable populations. By following these guidelines, future researchers and practitioners can create programmes that engage participants and provide meaningful, long-lasting benefits – as demonstrated in this study.

12.4 Critical Reflections

Whilst I am proud of what has been achieved through this research, it is important to consider its limitations.

Through the BARC-10, objective measurements of RC were available. However, which domain belonged to which capital (6.5.3) was unclear, and I could not find a solid explanation. This ambiguity means that the relationship between the BARC-10 domains and RRCM subcategories is suggestive rather than concrete, highlighting a weakness of the study. Additionally, the BARC-10 was not developed with Shilling's (1991) definition of physical capital in mind, making it not fully conducive to the RRCM. To address this gap, a self-perceived fitness measurement item was developed based on Lamb's (1992) research which posits that individuals can estimate their fitness. This provided an objective measurement of physical capital, supported by observations and interviews. Yet, research contests its significance in measuring physical fitness (Marsh, 1993; Huotari et al, 2009; Rahmani-Nia et al, 2011). Although the fitness measurement used may not have been the most accurate, its simplicity and non-invasive nature made it suitable for the study. Future research could incorporate more established measures that involve specialist equipment and trained researchers.

However, I remain cautious about promoting lab-based research, as it may not align with the real-life, natural environment central to this study.

The sample size is relatively small and there is an overrepresentation of men. Arguments that this limits the generalisability of the findings could be made, with the sample not representative of the broader homeless population. However, universal issues faced by homeless people, such as SUD, mental health, and social isolation, mirrored the experiences of participants. Furthermore, the sample can be viewed as diverse with participants across demographics. Research also indicates that of all people identified as homeless in England and Wales, 67.1% were male and 32.9% were female (ONS, 2023). In our sample, 68.18% were male and 31.82% female, aligning closely with the broader homeless population. Therefore, I argue that insights from the study are relevant to the homeless population. That said, a larger sample size in future research would be beneficial for generalisation.

It is important to acknowledge a limitation in the analysis concerning the intersection of participants' identities and how these factors may have shaped their engagement and experiences within the intervention. Whilst gender is considered, the potential influence of other intersections of identity is not fully explored in this study. For example, ethnicity may have affected how individuals perceived the intervention, engaged with others, or experienced barriers to participation. Similarly, age may have influenced expectations of physical capability or shaped social dynamics within the group. This oversight highlights a potential avenue for future research to engage more deeply with intersectionality. Future studies could explore how overlapping identities impact both engagement and outcomes of physical activity interventions involving MMA.

In 6.1, I outlined my positionality in the research. I entered with no MMA experience. Through the study, I have been empowered by MMA. I have reaped similar rewards to participants as I increased my capital stocks. This could be argued to have impacted the objectivity of observations and interviews. However, the mixed methods approach that provided robust findings that were triangulated from multiple sources (observations, interviews, and surveys), and my prolonged engagement in the field, helped to mitigate any bias and improve the reliability of results (Creswell, 2007). I also provided detailed contextual information on the study setting (Chapter 2), participants (Chapter 7), and intervention (6.1), to allow readers, other researchers, and practitioners to determine the relevance and applicability of the findings to their contexts.

Some practical reflections on the research have been covered in (Chapter 11). Adding to those would be constraints on the time and frequency of the sessions. Cramming striking and grappling into a weekly one-hour session is challenging. Not only would the research have benefited from longer classes, but an additional session a few days apart would have been useful. However, budget constraints limited the ability to do this. Future research should increase the time of the sessions to 90 minutes and potentially include at least one additional intervention that occurs on a different day.

Despite the study's potential shortcomings, it is the first of its kind; therefore, the insights gained should be the foundation for future research. The work started here will keep growing as MBC continues with the MMA classes. I hope that further research is undertaken to shed more light on the role MMA may have on homelessness and recovery.

12.5 Future Direction

As of 2024, homelessness in the UK is hitting record highs. Estimates suggest that between April 2023 and March 2024, there were 7,974 rough sleepers in London, a 25% surge from the previous year (Greater London Authority, 2024). This is 7,974 people – at minimum – who are rough sleeping in London. The Conservative government's pledge to eradicate rough sleeping by 2024 has failed (3.1). Increases in less visible forms of homelessness are also happening. On 31st December 2023, 112,660 households were in temporary accommodation, a 12.1% increase from the previous year (UK Department for Levelling Up, Housing and Communities, 2024). With a change to a Labour government following their victory in the 2024 UK General Election, there are signs of steps forward. Labour's manifesto broadens the scope of homelessness policies to include all types of homelessness, meaning the hidden homeless (Table 1) are acknowledged. This signals a holistic approach to the issue (Labour Party, 2024). A cross-government strategy, working with mayors and councils across the country to end homelessness, and delivering the biggest increase in social and affordable housing in a generation has been welcomed by homelessness charities (Crisis, 2024). The implementation of those with lived experience into positions of power, such as Angela Rayner (Deputy Prime Minister and Secretary of State for Housing, Communities and Local Government) who grew up in social housing, is promising. However, pledges have been made before and the challenge remains to ensure that policies are implemented effectively. Hopefully, the new government will make the most of this opportunity and work collaboratively with communities and charities to create meaningful change.

My policy recommendation, formed from this research, is to put more emphasis on empowering homeless individuals to engage with PA. This means empowering both the service users and services to include PA in their programmes. This does not have to be limited to MMA; while its empowering effects are substantial and warrant further research, any community-based exercise could yield positive outcomes. On a smaller scale, this recommendation looks like more funding through local councils to charities like MBC who specialise in tailored therapeutic exercise interventions for vulnerable people. On a national level, it involves more focus on educating referral agencies to promote PA to their service users. The foundations for this are already in place. The Moving Social Work (MSW) programme is funded by the National Institute of Health Research (NIHR) and Sport England and aims to embed PA advocacy for disabled people into education, training, and routine practice of social work (Monforte et al, 2022). Research indicates that social workers are excellent PA communicators (Williamson et al, 2020) and pilot studies indicate the programme's effectiveness in empowering disabled people into PA (Smith & Randhawa, 2024). A programme is being created to roll MSW out nationally and there is the possibility of extending its reach from disabled people to other marginalised groups (Monforte et al, 2022). Considering increases in homelessness and the evidence of the empowering impact PA can have, I would not leave it too late – the time to act is now. From October 2024, I will be joining the Moving Social Work programme as a researcher. My role is to create, evaluate, and implement a social work physical activities champions programme. The experience gained through the completion of this research and working with MBC have equipped me with the skills to make a meaningful contribution to the project. This is just the start of a career that plans to use the power of exercise to empower marginalised individuals.

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Appendix 1: Participant Information Sheet

Fighting the Choke: The Impact of Mixed Martial Arts on Homelessness Recovery

We would like to invite you to be part of a research project looking at the impact of exercise on homeless, and at risk of homelessness individuals.

Why are we doing this research?

The positive benefits of exercise on both physical and mental health have been well documented. It is also established that sport and exercise builds community and empowers marginalised groups. Physical exercise amongst homeless people is low and, to date, there is very limited interventions promoted to engage them into exercise. This study wants to fill this void and explore the impacts that exercise has on those experiencing homelessness and at risk of.

Who is organising and funding the research?

This research is being organised and funded by Sheffield Hallam University.

Why do we want to talk to you?

Your service is currently working with MBC (a Sheffield based charity) and the researcher on this project from Sheffield Hallam University. They have suggested that we work with you as they feel that your story is an important one and that you have an interest in engaging with physical exercise interventions.

What will you be required to do?

You will have access to free structured MMA classes, with one occurring each week. All classes will be facilitated by qualified practitioners with experience in providing inclusive activities. Classes will approximately last one hour. During classes you will not be pressured to push yourselves beyond what you feel capable.

We would like to make observations during, before and after exercise classes and interview you at different stages to gain an insight into your experiences. We would also like you to periodically complete a 10-item multiple choice questionnaire to measure your recovery capital developments.

Do I/we have to take part?

Participation is voluntary and it is up to you to decide if you want to take part. A copy of the information provided here is yours to keep, along with the consent form if you do decide to

take part. If you do wish to take part, please let your researcher have a copy of the signed consent form before the interview starts. You can still decide to withdraw before the interview at any time without giving a reason.

You can also withdraw your interview and contribution anytime up to two weeks after the research interview has taken place. After this time your anonymised data will still be used.

Will my participation be kept confidential?

Your name and other potentially identifying data will be anonymised in any published reports.

You will be given a pseudonym and your response will be confidential. Direct quotes will be used but not attributable back to you.

The only exception to confidentiality is if any information is shared during the research about a young person at risk of harm. In this case the university's safeguarding lead will need to be accessed and support provided to the young people involved.

What will the research be used for?

The information from the research will be published through a PhD thesis and shared through other academic/professional channels. It may be used in a research report, publications, conference presentations and media outputs. We hope that our publications will help policy makers and practitioners learn from your experiences to improve the situation for individuals in the future. Your name and other potentially identifying data will be anonymised in any published reports. The anonymised data may be accessed by other researchers after the project is complete. The findings will be summarised and shared with you at the end of the project and members of staff.

What will happen to information collected?

The interviews will be recorded and the audio recording will be professionally transcribed. The data will be stored in line with GDPR which requires information to be kept safe. Please see the contact details below for the data protection officer if you have any queries about this. All transcriptions will be stored anonymously and securely on the Universities network storage system for research. All confidential data will be safely disposed of at the end of the project. Anonymised data will be kept for 10 years from the end of the project as other researchers may find it useful for their studies. Your contact details will be deleted at the end of the project once we have sent you the project findings.

Are there any benefits to taking part?

Taking part in this project gives you the opportunity to tell your story and have your experiences heard. You will also have the opportunity to engage with an 18-month structured exercise programme.

Are there any possible disadvantages to taking part?

We understand that elements of your story may be upsetting. Our researchers are trained with discussing sensitive topics and will do everything that they can to make you feel comfortable. We will give you the contact details of support organisations who you can contact after the interview if you would like to discuss any aspect in more detail.

Any further questions?

If you have any questions or comments please do not hesitate to raise these at any time – your research contact is:

Mark Hollett, Department of Psychology, Sociology and Politics, Sheffield Hallam University, Heart of the Campus, Sheffield, S10 2LD -

Email – mh0083@hallam.shu.ac.uk

You may also contact Dr Ruth Barley, who is the Director of Studies, if at any time you have concerns about the research being carried out:

Email – dsrb@exchange.shu.ac.uk

You should contact the Data Protection Officer if:	**You should contact the Head of Research Ethics (Professor Ann Macaskill) if:**
• you have a query about how your data is used by the University • you would like to report a data security breach (e.g. if you think your personal data has been lost or disclosed inappropriately) • you would like to complain about how the University has used your personal data DPO@shu.ac.uk	• you have concerns with how the research was undertaken or how you were treated a.macaskill@shu.ac.uk
Postal address: Sheffield Hallam University, Howard Street, Sheffield S1 1WBT	

Sheffield Hallam University data protection statement

The University undertakes research as part of its function for the community under its legal status. Data protection allows us to use personal data for research with appropriate safeguards in place under the legal basis of public tasks that are in the public interest. A full statement of your rights can be found at https://www.shu.ac.uk/about-this-website/privacy-policy/privacy-notices/privacy-notice-for-research. However, all University research is reviewed to ensure that participants are treated appropriately and their rights respected. This study was approved by UREC with Converis number **ER30769459**. Further information at https://www.shu.ac.uk/research/ethics-integrity-and-practice

Appendix 2: Consent Form

Sheffield Hallam University

Fighting Homelessness: Mixed Martial Arts and Empowerment

Please answer the following questions by ticking the response that applies

	YES	NO
1. I have read the Information Sheet for this study and have had details of the study explained to me.	☐	☐
2. My questions about the study have been answered to my satisfaction and I understand that I may ask further questions at any point.	☐	☐
3. I understand that I am free to withdraw from the study within the time limits outlined in the Information Sheet, without giving a reason for my withdrawal or to decline to answer any particular questions in the study without any consequences to my future treatment by the researcher.	☐	☐
4. I agree to provide information to the researcher under the conditions of confidentiality set out in the Information Sheet.	☐	☐
5. I wish to participate in the study under the conditions set out in the Information Sheet.	☐	☐
6. I consent to the information collected for the purposes of this research study, and once anonymised (so that I cannot be identified) to be used for any other research purposes.	☐	☐

Participant's Signature: _____ **Date:** _____

Participant's Name (Printed): _____

Contact details: _____

Researcher's Name (Printed): _____

Researcher's Signature: _____

Researcher's contact details:

Principle Investigator – Mark Hollett – mh0083@hallam.shu.ac.uk

Department of Psychology, Sociology and Politics, Sheffield Hallam University,
Heart of the Campus, Sheffield, S10 2 LD

Please keep your copy of the consent form and the information sheet together.

Appendix 3: WhatsApp Group Consent Form

Sheffield Hallam University

WhatsApp Group

Consent Form

We would like to keep you updated on exercise classes and create a safe space for us all to be able to communicate easily outside of the exercise classes. For this reason, we would like to establish a group chat using the WhatsApp facility. For us to create this group, we will need your phone number so that we can add you to the group. This will mean that other people in the group can see your contact telephone number. We will not share your number to anyone outside of the WhatsApp group, We are committed to ensure that any personal information you provide is handled fairly and confidentially and in accordance with Data Protection legislation.

Participant Consent Form

What is Consent? Consent is a legal definition that simply means that you are competent and capable to make a decision once you have received adequate (or enough) information.	
Do you wish to join the WhatsApp Group.	YES / NO
I understand that I can leave the group at any point Without giving any notice or reason for leaving.	YES / NO
I have read and understood the rules for participating WhatsApp Group chat.	YES / NO
I understand that discussion in the group will be monitored .	YES / NO
Name: Date of Birth: Telephone Number:	Signature: Date:

Sheffield Hallam University

Rules for Self-Management WhatsApp Group

To ensure we are all well connected and use this facility correctly and safely, we have come up with a few ground rules for using the WhatsApp Group.

1. Respect others as individuals
2. Respect others culture, race and background
3. Respect others privacy and confidentiality – you must not share contact numbers of participants in the group to anyone else and remember that anything discussed in the group must be treated confidentially.
4. No bullying, harassment or discrimination.
5. Have Fun!!! Share exciting news, share your anxieties and worries, share your thoughts and offer support to one another.
6. No Tolerance Policy The chat will be monitored. We may ask you to remove comment or chat that is not appropriate. In rare cases, we may need to remove you from the group.
7. Make a Rule – if you wish a rule to be added here then get in touch and let us know.
8. Remember – this facility is **NOT** a replacement for emergency situations. WhatsApp will not be monitored 24/7 and therefore if you have an emergency please call 999 or 101 for non-emergencies.

Mark Hollett

Principal Researcher

Appendix 4: Debrief Document

Sheffield Hallam University

Fighting Homelessness: Mixed Martial Arts and Empowerment

Thank you for taking part in the group interview for this research project. We value your contribution to the project.

As we explained in the participant information sheet, the information from the research will be published to share your stories as widely as possible. We hope that our publications will help policy makers and practitioners learn from your experiences to improve the situation for individuals in the future. Your name and other potentially identifying data will be anonymised in any published reports.

The findings will be summarised and shared with you and members of staff. We hope it will be informative and helpful and that it can help us learn from your experiences of the exercise classes that you are engaging with.

If you decide that you would like to withdraw your data from this project you have two weeks for the date of your interview - after this time, your anonymised data can still be used. To withdraw your data please contact the project's Principle Investigator:

Mark Hollett - Email mh0083@hallam.shu.ac.uk

You should contact the Data Protection Officer if:	**You should contact the Head of Research Ethics (Professor Ann Macaskill) if:**
• you have a query about how your data is used by the University • you would like to report a data security breach (e.g. if you think your personal data has been lost or disclosed inappropriately) • you would like to complain about how the University has used your personal data DPO@shu.ac.uk	• you have concerns with how the research was undertaken or how you were treated a.macaskill@shu.ac.uk
Postal address: Sheffield Hallam University, Howard Street, Sheffield S1 1WBT Telephone: 0114 225 5555	

If you need further support in relation to any issues that were raised as part of the interview the following organisations may be able to support you:

Sheffield Mind offers support relating to mental health difficulties:
https://www.sheffieldmind.co.uk/

Sheffield Drugs and Alcohol Co-Ordination Team offers support relating to substance use:
https://sheffielddact.org.uk/drugs-alcohol/help-and-support/help-for-drugs/Sheffield

Samaritans is a free 24/7 confidential helpline:
116 123 (free helpline) 0330 094 5717 (local call charges may apply)

Appendix 5: BARC

BARC-10						
Name:			Date:			
	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1. There are more important things to me in life than using substances	1	2	3	4	5	6
2. In general I am happy with my life	1	2	3	4	5	6
3. I have enough energy to complete the tasks I set for myself	1	2	3	4	5	6
4. I am proud of the community I live in and feel a part of it	1	2	3	4	5	6
5. I get lots of support from my friends	1	2	3	4	5	6
6. I regard my life as challenging and fulfilling without the need for using drugs or alcohol	1	2	3	4	5	6
7. My living space has helped to drive my recovery journey	1	2	3	4	5	6
8. I take full responsibility for my actions	1	2	3	4	5	6
9. I am happy dealing with a range of professional people	1	2	3	4	5	6
10. I am making good progress on my recovery journey	1	2	3	4	5	6
Add columns						
TOTAL						

	Very Poor	Poor	Fair	Good	Excellent
1. How would you describe your fitness compared to other people of your age					

Appendix 6: Table of Number of BARCs Completed

Participant	No. of BARCs completed
Finley	13
Craig	14
Linda	4
Frank	4
Steve	5
Des	9
Erica	7
Luke	2
Mike	2
Amy	0
Dave	2
Eva	5
Anthony	2
Jason	0
Lisa	3
Leah	4
Stacey	12
Jimmy	2
Aaron	5
Oscar	16

Appendix 7: Pen Profiles

Desmond

Age: Late 20s. Des had a natural gift for MMA and developed faster than any other participant. He was one of the more consistent participants and went on to have a membership at Sheffield Shootfighters, attending multiple sessions a week where we became sparring partners. Despite having more ability than most participants, Des never showed any ego and had no problems slowing things down a bit when partnered with less experienced/gifted participants. His consistency dropped off as he got a new job as a Sous Chef. However, he would still occasionally pop his head into a class where everyone would be glad to see him.

Frank

Age: Mid 50s. Frank brought the energy to every class and wasn't half bad at MMA either. He was great to interview and have deep conversations with about his addiction and recovery. I valued the insight he was willing to give me into his world. A proper advocate for fitness, throwing himself into most of what MBC had on offer. He loved hiking and when he found out I was doing the Three Peaks Challenge he wanted to join. Unfortunately, the logistics wouldn't have worked but he set himself the goal of doing it the following year. I hope he manages to do it.

Linda

Age: Early 40s. Linda was the first woman that consistently came to the classes. Her support worker would accompany her at first, but then she became comfortable to attend alone. I appreciated how difficult it must have been for Linda, being the only woman at the classes for such a long time. My relationship with her was strong, as I would always partner up with her as she would shy away from wanting to work with other male participants. I must be honest and say that Linda was a difficult person to manage at times, but her commitment never went unnoticed. She went onto college, moved back in with her parents, and reunited with her son. The last I heard, she no longer needed Shelter's support.

Erica

Age: Early 30s. Name a sport and Erica has done it, even the most weird and wonderful of them (Octopush being the most memorable – look it up). She was fit and could easily have transitioned to more classes at Sheffield Shootfighters but was always transparent that she was ‘floaty’ and would probably stop attending once she got bored. However, this boredom never seemed to arrive, and she was one of the more consistent female participants we had.

Steve

Age: Mid 30s. When Steve first rocked up for his first MMA class, he looked the part. Stood there in Thai Boxing shorts he was raring to go. A giant of a man. When he found out that MMA was being offered, he was straight onto it. He believe he would have been a key participant had his chronic pain not proved a huge barrier to attendance.

Luke

Age: Early 30s. Luke first showed up on the same day as Steve, looking less the part but still being rather good and quite fit. A quite guy at first, but once he got comfortable, he displayed great humour. Quite quickly he found work, and this then occupied most of his time. However, he stayed in the group chat and continued to interact, reacting to photos and messages about the classes.

Mike

Age: Mid 40s. Mike was a Liverpool fan and never missed an opportunity to mock me about my unwavering support towards Everton. It was quite tough to ever give him any back as during the time Liverpool were excelling both domestically and in Europe, so I just had to take it. He and Oscar attended their first session together and grew close, walking home from the classes together. Mike ended up with increased access to his son, which coincided with the classes meaning he had to stop coming. I was happy for Mike, he loved talking about his boy.

Amy

Age: Early 30s. Amy came to the first ever MMA class we ran, then we didn't see her until about 14 months after. She'd been on a bit of a rollercoaster, but she found some consistency and was a joy to have at the classes because of her energy. She was decent at BJJ and didn't mind partnering up with males. Whilst she may look small, she wasn't to be tangled with.

Dave

Age: Late 30s. If Steve was a Giant, then Dave was Goliath. He was huge he had a lot of weight behind him. Liam got caught out when demonstrating a BJJ move on Dave once, unable to turn him over. I recall Liam getting quite blushed over this and Dave looking rather proud of himself. The participants that day enjoyed it too. When he wasn't getting new tattoos, he was a consistent attender. He ended up enrolling onto a college course and his participation dropped off, but he would still get down to a class whenever he had the time.

Eva

Age: Mid 20s. Eva and Stacey were best buds. Once they got their gym memberships, both would train downstairs before the MMA class. Eva got a lot from the MMA classes because of her history, but it took time and a lot of resilience from her to push through barriers at the start. With the help of Stacey, she became a constant presence at MMA.

Anthony

Age: Late 20s. Anthony was a bit of a dark horse when it came to BJJ. Having said he thought he wasn't suitable to come to our MMA classes, when it came to the BJJ he was the most accomplished person we've come across. It turned out he'd gone to advanced classes at another MMA gym in Sheffield just before Covid!

Jason

Age: Early 20s. I barely had to say anything in Jason's interview. He'd worked in the fitness industry, had a fascinating conceptual understanding of recovery, and deep knowledge of the principles of Martial Arts. It was like I had created the perfect person to interview for the research. I was buzzing for days when I discovered that Jason had got himself a job as assistant manager at a well-known gym chain.

Lisa

Age: Late 20s. It was funny when Lisa turned up to her first class and recognised Liam as the heavy-handed bouncer who used to work at the same nightclub as her. She was very timid, and the contact components of our MMA classes clearly frightened her. I think she found more enjoyment at the Friday circuit classes, but MMA allowed her to access these.

Leah

Age: Mid 20s. Leah was always fun to have at the classes. She had razor wit and didn't take herself too seriously. Our relationship really solidified when I went out of my way to rescue the Minecraft water bottle she had left at the MMA gym as she feared it would be thrown away.

Jimmy

Age: Mid 30s. Jimmy was shy and stand offish from the rest of the group. At first, I thought it was that he wasn't integrating well, but the more he came the more I realised it was just his personality and that he was happy being this way. He was a good boxer and a lot of the time he just wanted to show up, train, and then ride his bike home and spend time with his partner. It was great that he managed to get back into getting frequent work as a plasterer.

Aaron

Age: Early 30s. Alex hit hard. You could feel your forearms recoiling when you had hold the pads for him. That said, he was a gentle giant and would only go hard when he knew the person on the receiving end could handle it.

Appendix 8: PAR-Q Form

Sheffield Hallam University

PHYSICAL ACTIVITY READINESS QUESTIONNAIRE (PAR-Q)

NAME _____ DoB _____

Telephone _____

If you're aged 15-69, the PAR-Q will tell you if you should check with your doctor before significantly changing your physical activity patterns. If you're over 69 years and aren't used to being very active, check with your doctor. Please read each question carefully and answer honestly by ticking YES/NO.

	YES	NO
Has your doctor ever said you have a heart condition and that you should only do physical activity recommended by a doctor?		
Do you feel pain in your chest when you do physical activity?		
In the past month, have you had a chest pain when you were not doing physical activity?		
Do you lose balance because of dizziness or do you ever lose consciousness?		
Do you have a bone or joint problem (for example back, knee or hip) that could be made worse by a change in your physical activity?		
Is your doctor currently prescribing medication for your blood pressure or heart condition?		
Do you know of any other reason why you should not take part in physical activity?		

If YES, please comment:

If you answered YES to one or more questions: You should consult with your doctor to clarify that it's safe for you to become physically active at the current time.

If you answered NO to ALL of the questions: It is reasonably safe for you to participate in physical activity, gradually building up from your current ability level.

I have read, understood and accurately completed this questionnaire. I confirm that I am voluntarily engaging in an acceptable level of exercise, and my participation involves a risk of injury.

SIGNATURE _____ PRINT NAME _____ DATE _____

Appendix 9: The Big Issue Article

A fighting chance

Rising homelessness might have the country in a chokehold, but in Sheffield they are taking the unusual step of battling back with mixed martial arts

Words: [redacted]

There are many ways to fight homelessness but, in one small gym in Sheffield, mixed martial arts are the unique weapon of choice.

MMA might conjure up images of UFC and cage matches but a small project led by Sheffield Hallam University researcher Mark Hollett is using the sport to battle drug and alcohol addiction, help people kick on in employment and education and prevent homelessness.

The one-hour-a-week class at Sheffield Shootfighters Mixed Martial Arts Club works with national services including Shelter and the NHS, as well as local groups Mind Body Connect (MBC), Nomad, Depaul and Project 6 to help people use martial arts to change their lives. For some, the one-of-a-kind project has been a lifeline.

'When you help a homeless person, they can excel'

[redacted] got involved in the MMA classes at the back end of the pandemic after being referred by Shelter. The 45-year-[redacted]y was homeless back in 2015 and spent six months rough sleeping and sofa surfing while working in a supermarket before Shelter helped him off the streets.

"There was a death in the family where I didn't have access to the property so from that moment I was sofa surfing. I used to cycle six miles to work, do a 10-hour shift and cycle back to Sheffield city centre," says [redacted]

"Every night you would hear a noise or see someone walking around so you would only get short breaks or little naps. You were always aware, always alert, of what was around you. It was a low place to be."

Having the support network of the MMA class has given him the foundation to get on in life.

He now lives in a bungalow and fundraises to help the charities that supported him. He credits the impact of the MMA class in keeping him out of homelessness.

"MMA was something totally new to me, something that I'd seen on Sky Sports but something I knew very little about," he adds. "I enjoyed the community and the camaraderie, the teamwork and everyone just getting on. You just felt like part of the family.

"I've spun everything around. I'm not working now but I'm giving a lot

back because I know when you help a homeless person they can excel. They can go past me and beyond me and do something else and help other people. That's where the government and society are missing out."

Hollett, who runs the classes with coach Liam Smedley, is not just doing the project to transform lives, he's using the classes to conduct his PhD research working with Mind Body Connect.

The academic wanted to see if classes introducing kickboxing, Thai boxing, Muay Thai, jiu-jitsu and wrestling could resonate and make a difference to people on the margins.

"What underpins jiu-jitsu?" says Hollett, who was a support worker before switching to academia.

"It's not just about fighting and submission holds. It's actually a philosophy that goes beyond overcoming an opponent. It actually advocates a healthy lifestyle, utilising the full potential of the mind and body, a lifestyle free of substances and also remaining connected with friends and family. Another reason why we chose mixed martial arts is it's never been done before."

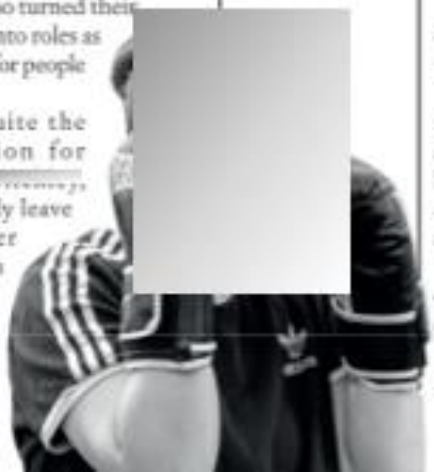
'I'd totally given up on the world. I was waiting to die'

Hollett's research has now finished and he is in the process of writing up his findings. He found that attending the weekly MMA classes has had a profound empowering effect on participants' body and mind and given them the ability to tackle life's challenges.

Perhaps the biggest success of the project has been the ability to take two women who have overcome drug addiction and get them into employment.

For [redacted], the MMA classes have not just been an opportunity to take a different path in life, they've also turned their life experiences into roles as support workers for people in recovery.

It's been quite the transformation for 52-year-old [redacted], who could barely leave the house after struggling with addiction and PTSD following an abusive relationship.



(Opposite) a boxing class, (right) Mark Hollett came up with the idea for his PhD

It's not just about fighting. It advocates a healthy lifestyle, utilising the full potential of the mind and body

"From the first class I went to it properly reignited a fire in me and brought me back to life," says [redacted] who has been clean for 16 months after her addiction started during the relationship.

"I'd isolated myself away for like 10 years, I barely used to leave the house. It surprised me when I was referred to it. I was like: where did that come from? But it's given me my fight back. It's just so empowering. I'd totally given up on the world, I was just waiting to die. It's totally changed my life."

It's a similar story for [redacted], who is due to start her new role as a support worker at [redacted] imminently.

The 25-year-old tells The Big Issue she had been battling addiction since the age of 12 and her substance abuse problems ultimately stood in the way of her ability to complete her sociology degree at [redacted].

But a year after starting the MMA course, she is sober, has finished her degree and is now starting a new career.

Could [redacted] have done it without MMA? No, she reckons.

"I think MMA is spot on for people in my position. The classes are not judgemental at all – I was going to classes with holes in my shorts at first and it's so accessible," [redacted] says.

"I think it's absolutely invaluable. I can honestly say hand on heart it's been one of, if not the biggest contribution to me keeping my shit together.

"I actually went back to uni after a bit of time off and managed to get my degree by the skin of my teeth. I just stayed in recovery and I had fight in me, I had drive. Without MMA I think I'd be back in the chaos. I'd still be going on nights out, I can tell you that. I don't think I'd have got my degree. It wouldn't actually surprise me if I ended up homeless."

The cost of living crisis has homelessness in a chokehold and, with rising numbers, it's going to take creativity and ingenuity and a smart use of resources to turn the tide. Perhaps projects involving MMA and other sports could help to strike a blow.

Appendix 10: Exercise as an Intervention Literature Review Tables

Homelessness and Exercise

Author/Year/Location	Aims/Research Question	Research Design/Data collection	Sample	Findings
Burling et al (1992) USA	Assess the impact of participation in a community based soft-ball team for homeless veteran substance abusers	Mixed methods Before/After tests and interviews 12 weeks Ex group: (n34) 2 training, 1 game and 1 team meeting per week. Con group1: Standard care package. Historical con group: Standard care package 1yr prior to intervention. Demographics, length of stay, conditions of discharge. 3-month interview follow ups	N=218 homeless males with drugs and alcohol issues	Substance use: Sig higher treatment duration, completion and abstinence rates for EX-group at 3-month follow up. Physical outcomes: None reported Psychological outcomes: Participation appeared to enhance outcomes by providing opportunities for practicing coping skills.
Knestaut et al (2010) USA	To discuss the benefits of a leisure activity, specifically a structured dance class for adults experiencing homelessness.	Mixed methods	N=11 homeless adults living in a shelter	They indicated that they felt happier, more energetic, more relaxed, and joyful following engagement in the dance program. engagement in the dance program decreased their negative feelings. The decrease of stress was the most notable change in affect. Participants also stated that during the class they were able to forget about other things and enjoy the time focusing on something different than usual. Participants reported a 20% decrease in their stress. They also indicated a decrease in sadness and frustration, although some reported an increase or no change in frustration.
Sherry, E (2010) Australia	Uses the case of the Australian HWC team to argue that participation in sport can provide beneficial outcomes for participants and develop social capital.	Qualitative analysis of the experience of the Street Socceroos team members and their participation in the HWC in Cape Town. Pre and post event interview	N=8 males from the HWC team	Intrinsic benefits and broader social capital outcomes. Cannot say that sport alone accounts for beneficial outcomes, the study demonstrates the role that sport programs play in (re-)engagement of marginalized people within the broader community.

Randers et al (2012) Denmark	Examine the effects of 12 weeks of small-sided street soccer and fitness training on physical fitness and CV health profile of homeless men.	Before and after training tests. Exercise capacity, maximal oxygen uptake (VO2max), body composition (DXA scans), blood pressure (BP), and blood lipid profile were determined. time-motion analyses, HR measurements, and pedometer recordings were performed during street soccer training and daily-life activities (measured using watch).	N=55 homeless men recruited from shelters and unemployment offices in the Copenhagen area. 3/5 training 2/5 control.	Regular street soccer training can be used as an effective activity to promote physical fitness and cardiovascular health status for homeless men.
Sherry & Strybosch (2012) Australia	Analyses of the longitudinal outcomes of Australia's community street soccer programme Investigates: the socio-demographics of participants; the intrinsic benefits of participation in the programme; and the social outcomes of the programme	Qualitative / longitudinal. Semi structured interviews occurred over a four year period. Themes included: • What sport participation opportunities are available for at-risk or marginalised communities • What are the potential benefits from participation in sport for at-risk or marginalised communities • How can we better provide sporting opportunities for people at-risk or marginalised	N=165 participants from the soccer programme. N=21 staff from Community Street Soccer Programme, key stakeholders, or support workers	Finds that participation in sporting programme can improve social capital – improves social inclusion and self-identity.
Sherry & O'May (2013) Australia	Explores the relationship between sport and social capital for homeless individuals with MH or SUD	Qualitative analysis of semi structured interviews.	N=27 team members from Melbourne HWC. N=19	Sport initially provides social bonding within limited social network – over time other types of SC (bridging + linking) exhibited by participants – helped SUD cessation. Sport can provide an

		Interviews focused on participants interest in sport, factors that influence participation, perceived changes because of participation in the programme, changes pre and post event, current experiences of social exclusion.	representing Australia (18 male, 1 female). N=8 from representing Scotland. All male	effective vehicle for the accrual of social capital, which may positively impact the mental health and substance abuse patterns of participants from marginalised and at-risk communities.
Magee & Jeanes (2013) UK	Investigates both the benefits and challenges of engagement in the HWC	Qualitative. In-depth interviews at the beginning and end of the tournament. Observations made throughout the tournament	N=6 players from the UK team	Positive findings in relation to HWC encouraging the creation of friendships and social support; however, number of issues raised in the use of competitive sports as a tool to support homeless men and seek pathways out of homelessness. Interactions in the HWC mirrored negative experience within everyday lives.
Peachy et al (2013) USA	What is the perceived impact of the Street Soccer USA Cup on its participants; and (b) What are the structures, processes, and program components of the Cup that contribute to its potential impact on participants?	Qualitative Focus groups	N=11 Street Soccer players N=6 Coaches	Results indicated positive perceived impact on participants through building a sense of community, creating hope, cultivating an outward focus, fostering goal achievement, and enhancing personal development. The Cup was effective in achieving positive impact through creating a celebratory and festive space for social interaction, and by creating an inclusive climate where achievement was celebrated. Findings derived from this research provide intriguing foundations for further research and development of the SFD field
Helge et al (2014) Denmark	Investigate the feasibility of street football as a health-enhancing activity for homeless men, specifically the	Controlled intervention study-nonrandomised	N=22 homeless men participation in	Street football is a feasible training activity with musculoskeletal health benefits for homeless men. The attendance rate and the training intensity

	musculoskeletal effects of 12 weeks of training.	Plasma osteocalcin, TRACP5b, leptin, and postural balance were measured, and whole-body DXA scanning was performed	the football group N=10 in control groups	were high, and 12 weeks of training resulted in a substantial anabolic response in bone metabolism. Postural balance improved markedly, and the overall risk of falling, and hospitalization due to sudden trauma, could be reduced by street football for homeless men
Curran et al (2016) UK	To investigate the challenges that men from hard-to-reach (HTR) populations encounter when attempting to commit to regular participation in physical activity and health behaviours, and to explore the psychological and social effects of participation in a twelve-week football-led health improvement intervention	Ethnographic and observational. 12-week football specific intervention. Delivered by Everton Football Clubs' Football in the Community (FitC). Two-hour football sessions, twice weekly, alongside healthy living messages.	N=34 males who were either experiencing homelessness or recovering from drug addiction	Community based football led by professional clubs is well positioned to connect and attract men from hard-to-reach populations. Such programmes can improve psychosocial health amongst these populations. Bottom-up programme design and management strategy is required to remove barriers when attempting to engage HTR participants into regular physical activity and health behaviours
Gregg & Beddard (2016) Canada	Pilot study to describe the PA experiences and perceived benefits of, and barriers to, physical activity participation for individuals living in homeless shelter	Mixed Methods Quant: Self-report questionnaire measuring psychosocial factors Qual: Interviews probing participants social support, motivations, perceived benefits, and physical activity preferences Fitness tests were completed to determine participants' body mass index, cardiorespiratory fitness, flexibility, and general body strength.	N=18 males living in a homeless shelter	Participants fell well below flexibility tests. Moderate correlations between several psychosocial variables and some fitness parameters. Evidence suggest homeless participants are open to physical activity and benefits from engagement may go beyond improving fitness levels

Kendzor et al (2017) USA	Evaluates the feasibility and effectiveness of a diet and physical activity intervention for homeless adults	**RCT** Intervention participants received tailored educational newsletters, pedometers with step goals, and twice daily fruit/vegetable snacks. Key measures included 24-hour dietary recall interviews and accelerometer-measured moderate-to-vigorous intensity physical activity (MVPA)	Shelter residents (N = 32) were randomly assigned to a 4-week diet and physical activity intervention (n = 17) or an assessment-only control group (n = 15).	Concludes that there is potential to improve diets and PA levels among sheltered homeless adults. Baseline measurements showed poor weight (mainly over) and high food insecurity, low activity levels, overall poor diet. Diets improved with interventions but not statistical significance – more self-reported evidence.
Trejo et al (2017) USA	Seeks to understand the experiences of homeless individuals and the impact of repeated defeats within the HWC	Qualitative In-depth interviews and participant observation Interviews took place prior to the tournament, between three months and one week before the HWC and during the tournament	N=15 players from France N=9 coaches, managers, and support staff from France N=14 matches from other countries observed only	Whereas the HWC's preparation promised a positive, life-changing experience, it delivered a negative frame experience and was intrinsically non-beneficial to several of the participants interviewed. This can be understood as references to secondary frames in participants' perceptions of experiencing a primary frame (the HWC). Defeat and consequent humiliation resulted in negative feelings of stigma.
Randers et al (2018) Denmark	Investigate HR, movement pattern, rating of perceived exertion (RPE), flow and worry during street soccer for homeless women	Quantaitve	N=15 homeless women who participated in a HWC game	Street soccer for homeless women elicits high HR and a movement pattern comparable and for some parameters even higher than street soccer and recreational football for homeless and untrained men. Street soccer may be a suitable training intervention for homeless women, and especially moderate RPE and high flow score speaks in favour

				of an expectation of high participation and adherence.
Sofija et al (2018) Australia	Process evaluation of an 8-week group fitness intervention in a supportive housing facility. The purpose of the intervention was to increase tenants' physical activity together with opportunities for social interaction and support to, in turn, improve physical and mental wellbeing, and ultimately help individuals re-engage in their community.	Qualitative Observations of fitness sessions Semi-structured interviews with participants Semi-structure interview with staff	N=18 tenants from supportive housing facility (11 female; 7 males). N=4 project staff	Intervention was appropriate, well delivered and enjoyed, mental wellbeing and social inclusion notable. On site delivery and trainers' ability to build rapport central to success. Conclusion: Promising but need for personalised care due to complexity of health issues
Clift, B (2019) USA	Ethnographic inquiry into the experiences of participants involved in a non-for-profit organisation, Back on My Feet, who use the practice of running to engage those recovery from homelessness	Ethnography Participant observations, semi-structured interviews, and collection of artificats from the organisation	N=27 people participating in Back on My Feet	Participants constructed moralized senses of self in relation to volunteers, organizers, and those who do not run, while in recovery. Their experiences compel consideration of how bodily constructions and practices reproduce morally underpinned, self-oriented associations with homeless and neoliberal discourses that obfuscate systemic causes of homelessness, pose challenges for well-intentioned voluntary or development organizations, and service the relief of the state from social responsibility.
Dawes et al (2019) UK	To explore the experiences of homeless women attending these running groups and to establish how participation in a supported running group impacted their lives.	Qualitative. Semi-structured interviews	N=11 women who regularly attended the charity runs	Volunteer-led running groups are valued by homeless women by helping them take control of their health. It provides insight into their engagement in physical activity, thus potentially helping prevent injury or illness, and aiding recovery and rehabilitation.

Malden et al (2019) Scotland	Aimed to evaluate the impact of a community-based physical activity and peer support intervention on the health and wellbeing of homeless participants.	Qualitative Semi-structured interviews. Questions related to the perceived benefits of the intervention and what worked well and not so well.	N=10 homeless adults	Participants reported that their health and wellbeing had improved since attending the intervention. This was attributed to improvements in self-esteem, social interaction, and mental wellbeing. Participants generally felt that their physical activity had increased since attending Street Fit, and several individuals reported that they were making healthier choices with regards to health behaviours.
Grimes & Smirnova (2020) USA	Investigate the impacts of a bicycle on mobility, physical health, access to health care, social capital, self-esteem, and employment	Qualitative In-depth open-ended interviews	N=16 males experiencing homelessness	Study findings suggest that men experiencing homelessness experience several positive impacts from owning a bicycle and value the independence they gained. Maintaining employment, strengthened social capital, improved health and access to health care services, and increased self-esteem emerged as important outcomes for men experiencing homelessness who are bike owners. For example, men reported being able to stop taking prescription medications and reduce illegal drug use because of their bike use. New unresolved challenges include bike theft, lack of secure parking, and storage.
Koch et al (2020) Canada	Explores the experiences of a group of homeless men participating in weekly floor hockey games	Ethnography Observations and interviews	N=10 homeless males participating in weekly floor hockey games	Weekly sporting interludes served as convivial, safe, and consistent events that nurtured the development of long-term meaningful relationships with other participants and social workers, as well as a genuine sense of community. The weekly floor hockey matches were powerful sites in the broader struggle for "salvaging the self" for men who embodied a repertoire of trauma and who are regularly positioned as morally devalued

				subjects who lacked personal responsibility and self-governance.
Okada & Kashu (2020) Japan	Investigate the outcomes of the Homeless World Cup (HWC) and the Happy Football Cambodia Australia (HFCA)	Qualitative Interviews and participant observation	N=12 staff members N=6 Donors N=33 ex HCFA players	Analysis showed that many ex-players self-reported improved life skills and mental and physical toughness, which they attributed to their participation in HFCA activities. Additionally, some players realized the possibility of applying their domestic experience in society through the process of participating in HWC. HWC appears to build on the achievement outcomes of the HFCA activities along with trends in the rapid economic development in contemporary Cambodian society; consequently, many players had materialized social participation by engaging in learning, working, and playing football
Kemter et al (2022) USA	To assess the impacts of an organised running group on homeless individuals with concurrent SUD	Qualitative In-depth interviews after four weeks of practices or when qualified to run 5km.	N=79 (55 females, 44 males) homeless participants	In general participants spoke positively of their program experience – five themes: resiliency, improved self-confidence, exercise as a coping strategy, social connectedness, improved ability to set goals
Oudshoorn (2022) Canada	Evaluation of a programme intended to increase social inclusion through sport geared towards those living with mental health challenges and/or experiencing homelessness	Quantitative Interviews and surveys	N=68 completed evaluation surveys N=7 completed in-depth interviews	Results showed that the program was a 'Refuge' for people with complex and challenging lives, that participants found a sense of 'Fellowship', and discovered 'New Energy'. It is concluded that community sports programs might offer a promising intervention to move community integration from aspiration to reality.
Whitley et al (2022) USA & Canada	To assess the long-term impacts of street soccer. Build on previous research on HWC.	Qualitative / Longitudinal Narrative interviews	N=16 homeless individuals	Steet soccer is a good trauma informed practice that promotes growth and resilience. Street soccer programmes become therapeutic groups.

			taking part in either Street Soccer Scotland or Street Soccer USA	Individuals who dropped out of programme need to be interviewed to provide critical analysis.
Bates et al (2023) Canada	To examine participants' accounts of the effects of street soccer in a sample of socially disadvantaged players from Western Canada	Quantitative Self-report questionnaire	N=73 players of street soccer	Participants reported improved physical (46% of participants) and mental (43% of participants) health, reduced cigarette (50% of smokers), alcohol (45% of users), cannabis (42% of users), and other nonprescribed drug use, increased number of friends (88% of participants), improved housing (60% of participants), increased income (19% of participants), increased community medical supports (40% of participants), and decreased conflicts with police (47% of those with prior recent conflict). Perceived reductions in substance use were supported by significant changes in composite harm score
Creagh et al (2023) New Zealand	What impact does physical activity subsidies have in terms of supporting the wellbeing of individuals in marginalised communities	Qualitative Interviews	N=12 clients of a charity that supports marginalised communities (mostly financial insecurity) into physical activity.	Physical activity support resulted in participants actively shaping their health and wellbeing in four areas: physical, mental, behaviours, and social. Accessibility was the most frequent barrier to exercise
Donnelly et al (2024) USA & Scotland	Explore: (a) What stories do the Street Soccer players draw upon to construct meaning around their experiences of	Qualitative / Longitudinal Narrative approach	N=16 (7 females, 9 male)	These narratives depicted visceral accounts of complex and developmental trauma, along with consequential experiences that unfolded before,

	trauma, social exclusion, and homelessness? and (b) What stories are linked to the subjective sport programming experience and resulting future orientations?	Semi-structured interviews conducted across three time points Interviews with significant others at time point three	N=13 significant others	during, and after the Homeless World Cup. While both preparing for and attending the event, players recalled concurrent feelings of anxiety and pride which manifested in various resilient and maladaptive coping behaviours. As the stories progressed, players battled a post event crash by engaging in support seeking and/or self-destructive behaviors before positive implications of the Homeless World Cup materialized
O'Rourke et al (2024) Canada	Examine the experiences of members of a unique physical activity group: people who were formerly or currently homeless participating in a street soccer program in Western Canada.	Qualitative Interviews about the extent the programme fostered a sense of community, social connectivity, and quality of life	N=10 individuals from Vancouver Street Soccer League	The findings provide insight into how a street soccer program which fostered shared social identity, psychological safety, friendly competition, and social support contributed to the well-being of people impacted by homelessness, various traumas, and marginalisation.

SUD & Exercise

Author/Year/Location	Aims/Research Question	Research Design/Data collection	Sample	Findings
Gary et al (1972) USA	Examine the effect of jogging on physical fitness and self-concept among hospitalised alcoholics.	RCT:4 weeks exercise group: 5 times per week incremental running programme. Control group: Standard recreation and therapy sessions. Pre and post scores	N=20 males who were hospitalised alcoholics	Substance use: No impact on drinking episodes. Physical outcomes: Significant gains in cardiovascular fitness. Psychological outcomes: Significant gains in self-concept for exercise group
Frenkel et al (1974) USA	Evaluate the physical fitness and MMPI scores of male alcoholics before and after treatment programme that included a daily physical fitness session.	Intervention: Before/After 12 weeks Exercise group: 1hr daily fitness session incorporating Warm-up, individual strengthening activities, 20min group run or walk (cardiovascular). Pre and post MMPI, resting pulse, diastolic bp, body weight and physical fitness test	N=214 male alcoholics	Substance use: None reported Physical outcomes: Participants gained weight, improved physical fitness tests scores while having significantly lower mean resting pulse rates and diastolic blood pressure. Psychological outcomes: Participants also displayed reductions in self-reported depression and paranoia (MMPI)
Sinyor et al (1982) Canada	Explore the impact of a progressively more vigorous fitness programme for patients at an inpatient alcohol treatment centre.	RCT: 6 weeks Ex group: 1 hr of progressively more vigorous PE 5 days a week (Stretching, calisthenics, muscle strengthening running or cross-country skiing). Con group: Standard care package. Pre + post body fat, HR, and max 02 intake.	N=27 alcoholics	Substance use: Significantly higher rates of abstinence for EX group. Physical outcomes: Body fat decreased, basal heart rate decreased, and maximum oxygen uptake increased. Psychological outcomes: None reported 3 month follow up suggests 32% higher abstinence for EX group
Murphy et al (1986) USA	To assess the effects of exercise and meditation on alcohol consumption in social drinkers	RCT – 3 conditions – Exercise (running), meditation and no-treatment control – Pre-treatment baseline (2weeks), treatment intervention (8weeks), follow-up period (6weeks)	N=60 male student from Washington University	Results showed that subjects in the exercise condition significantly reduced their alcohol consumption compared to the no-treatment control condition.
Palmer et al (1988) USA	Assess the usefulness of exercise as a treatment intervention with inpatient problem drinkers	RCT: 4 weeks Ex group: 20-30min Aerobic PE (walking and jogging) 3 times a week. Con group: Standard care package. Estimated Vo2 max, STAI, TSCS	N=27 alcoholics	Substance use: Significantly higher treatment duration, completion and abstinence rates for EX-group at 3-month follow up. Physical outcomes: None reported psychological outcomes:

				Participation appeared to enhance outcomes by providing opportunities for practicing coping skills.
Burling et al (1992) USA	Assess the impact of participation in a community based soft-ball team for homeless veteran substance abusers	Mixed methods Before/After tests and interviews 12 weeks Ex group: (n34) 2 training, 1 game and 1 team meeting per week. Con group1: Standard care package. Historical con group: Standard care package 1yr prior to intervention. Demographics, length of stay, conditions of discharge. 3-month interview follow ups	N=218 homeless males with drug and alcohol issues	Substance use: Significantly higher treatment duration, completion and abstinence rates for EX-group at 3-month follow up. Physical outcomes: None reported Psychological outcomes: Participation appeared to enhance outcomes by providing opportunities for practicing coping skills.
Kremer et al (1995) USA	A survey among therapeutic recreation specialists practicing within substance abuse treatment facilities	Survey - SRQ - Open ended questions included	N=50- randomly selected from the Therapeutic Recreators for Recovery network. Professionals.	Revealed a strong belief that PA was a particularly important part of treatment. Walking, games, sports, weight-training, and aerobics were offered most frequently. Concern raised about lack of training for practitioners.
Palmer et al (1995) USA	Investigated the effects of three types of structured exercise (aerobics, bodybuilding, and circuit training) on depressive symptoms	Depression, resting pulse rate, blood pressure, maximum strength on incline bench press, and estimates of aerobic fitness and body fat.	N=45 clients undergoing a 4-wk., inpatient rehabilitation program for substance abuse.	Programme produced a significant decrease in depressive symptoms
Donaghy (1997) Scotland	Evaluate the short- and long-term effectiveness of a PE program as an adjunct treatment for problem drinkers	RCT Ex group: 3 Supervised PE, (aerobic and anaerobic) 3x30min per week followed by 12 weeks home-based PE (aerobic and anaerobic) 3x30min per week. Con group: 3 weeks of supervised	N=165 alcoholics	Substance use: No sig differences in abstinence rates. Physical outcomes: Sig improvement in power and fitness at 15 weeks for Ex group. Power and fitness gains maintained at 5 month follow up.

		gentle stretching and breathing exercises, followed by 12 weeks home-based training (both 3x30min per week). Sefl assessment of alcohol intake and PA, PSPP, ZIAD and BDI		Psychological outcomes: Sig improvement fitness, body self-perception, and self-esteem after 15 weeks for Ex group. Anxiety and depression equally reduced in both groups
Ermalinski et al (1997) USA	Assess the impact of a body mind component on alcoholic inpatients	RCT Ex group: Fitness including yoga and incremental jogging + Motivation around responsibility and health (both 5x1.5hr per week). Con group: Standard care package. Alcohol craving, depression, and body satisfaction measurements	N=90 male alcoholics	Substance use: Sig reduced craving. Physical outcomes: Participants made partial fitness gains. Psychological outcomes: No sig change in depression, body satisfaction. Sig increase of internal locus of control and responsibility for health
Hutchinson et al (1999) USA	Examining the efficacy of an aerobic exercise program for adults with chronic psychiatric disabilities – hypothesis: certain aspects of psychological well-being would improve as fitness levels increased.	Structured aerobic exercise program that met 3 times a week for 30 minutes over 15–20 weeks. Periodic psychological and physiological measurements	N=37 adults with severe psychiatric disabilities.	Significant positive changes were seen in both physical and psychological variables, indicating the potential of physical fitness as a rehabilitation intervention for persons with a psychiatric disability.
Powers et al (1999) USA	Explore the perceived effects of PSAE in a population defined by their injection drug use.	Open ended questionnaire - explored the meaning of PSAE (including fandom) for participants.	N=45 primarily heroin users	Exercise and sport were of significance for more men (78%) than women (31%). 72% of participants were sports fans. Entertainment, relaxation and socializing were listed as positive effects of fandom.
Okruhlica et al (2001) Slovakia	Explore the role played by exercise and sport activities in the prevention of illicit drug abuse	Survey -Closed questions aimed at gauging sports and exercise participation.	N=215 heroin	75% of addicts took part in regular PE/sport until the age of 15. 17% started illicit drug abuse prior to the termination of their sporting activities.
Read et al (2001) USA	Investigate exercise behaviours and exercise-related attitudes in a sample of adults in treatment for alcohol use disorders	Survey - SRQ - measured EBA, SPE number of PE sessions per week.	N=105 - alcohol	40% reported exercising less than once a week. 46% reported exercising 3 times weekly or more. Average exercise duration of 40–49 min. No sig gender, age or education differences in exercise level. 75%

				were interested in EX programs, for providing tension relief, stress reduction, and positive attitude. PE barriers included high costs, lack of motivation, time, knowledge, confidence and physical disability
Li et al (2002) USA	To explore the effectiveness of qigong therapy on detoxification of heroin addicts compared to medical and nonmedical treatment	RCT – participants randomly assigned to 1 of 3 groups: Qiqong group, medication, or no-treatment group. Tested for morphine in urine Hamilton anxiety scale, withdrawal symptom evaluation.	N=86 male heroin addicts	Results suggest that Qiqong may be an effective alternative for heroin detoxification without side effects. Cannot completely eliminate the possibility of a placebo effect.
Ussher et al (2004) USA	Explore whether a brief bout of exercise can reduce alcohol urges	RCT Ex group 1: Single stationary cycling; 10-min at moderate intensity (40–60% heart rate reserve). Ex group 2: Single stationary cycling 10-min at very light intensity (5–20% heart rate reserve). Alcohol urge and mood measurements	N=20 alcoholics	Substance use: Decreased urge to drink alcohol during but not following moderate exercise.
Vendamurthachar et al (2006) India	To test the effectiveness of Sudarshana Kriya Yoga (SKY) antidepressant effects on inpatients with alcohol dependence.	RCT, after detoxification participants either assigned to SKY group or not. Beck Depression Inventory (BDI) completed	N=60 individuals who had finished detoxification a week prior	In both groups' reductions in BDI scores occurred but significantly more so in SKY group. Likewise, in both groups plasma cortisol as well as ACTH fell after two weeks but significantly more so in SKY group. Reduction in BDI scores correlated with that in cortisol in SKY but not in control group. SKY has antidepressant effects in alcohol dependence subjects.
Brown et al (2008) USA	Explore the use of exercise as an adjunct intervention for alcohol dependent patients in recovery	Intervention Before/After Ex group: Moderate intensity [treadmill and exercise bike] (20- 40min 2-3 times per week), group behavioural training and an incentive system. TLFB, Breath	N=19 alcoholics	Substance use: Sig higher rate of abstinent days at intervention end and 3-month follow-up. Physical outcomes: Sig increased fitness and decreased BMI at end of treatment. Psychological outcomes: None reported.

		analysis, Sub-maximal cardiorespiratory fitness test and body composition measurements.		
Weinstock et al (2008) USA	Investigate the association between completion of exercise related activities and substance use disorder treatment outcome.	Secondary statistical analysis of authors previous RCT's, in which participants are coded as either exercisers or non-exercisers - self reported activity	N=187 alcoholics	Substance outcomes: Exercisers had the longer duration of abstinence as compared to non-exercisers. Physical outcomes: None reported Psychological outcomes: None reported
Mamen et al (2009) Norway	Assess the physical fitness of a group of substance abusers using direct maximal and blood lactate threshold testing.	Experiment - One time measurement Ex group: All participants took part in a PE programme as Part of their rehab programme (details not specified). Lactate profile running and cycling tests, maximal oxygen	N=47 individuals with drug and/or alcohol addiction	Substance use: Primary intoxicant had no effect on fitness. Physical outcomes: V02 max score are higher than in other similar (but submaximal) studies. Participants mean V02 just below national average Psychological outcomes: None reported
Brown et al (2010) USA	Pilot study to examine the feasibility of aerobic exercise as an adjunct to substance abuse treatment.	Intervention - Before/After Ex group: 1 supervised + 2-3 individual training sessions per week for 20–40 min of moderate aerobic training (55–69% max HR). 1 brief weekly CBT intervention to increase motivation for PA. Incentive component for EX adherence. Pre and post, 3 month follow up, CV, BMI and SRQ testing	N=16 individuals with addiction to either alcohol, cannabis, cocaine, opiates, or sedatives	Substance use: Sig lower relapse rates in patients who had attended at least 75% of PE sessions. Physical outcomes: Sig increased fitness after 12 weeks. Psychological outcomes: None reported
Mamen et al (2010) Norway	Evaluate the development of aerobic power and performance on a lactate profile test with directly measured VO2max of substance abusers completing a training programme	Intervention - Before/After Ex group: With the assistance of 'training partners'(trained volunteers from the local municipalities). Incremental running and cycling. Lactate profile running and cycling tests, maximal oxygen	N=33 individuals with addiction to alcohol and/or drugs	Physical outcomes: Participants experienced a small, but sig improvement in VO2max and lactate profile test. Those with highest gains were those who trained at highest intensity. Psychological outcomes: None reported

Roessler (2010) Denmark	Asses the effectiveness of an exercise intervention to alter the behaviour and body image of drug abusers	Pilot study - Mixed methods Before/After +Semi-struct Interview Ex group: Training 2hrs 3xper week; Combination of aerobic PE (e.g., spinning), strengthening PE and team sport activities (e.g., volleyball, badminton) - measurements of drug and alcohol intake	N=38 individuals with addiction to alcohol and/or drugs	Substance use: Reduced alcohol and drug use. Physical outcomes: Sig improved fitness at end of treatment. Psychological outcomes: Improvements in subjective control, craving, and role of substance. Interview findings: increased fitness reduces withdrawal symptoms and improves body perception, Vigor, sleep quality, and Self-confidence.
Abrantes (2011) USA	Investigate the exercise preferences of patients in substance abuse treatment	Survey - exercise preference and exercise history	N=97 - alcohol and drug mixture	71% of patients were not currently engaged in regular exercise. 95% of patients expressed an interest in engaging in an exercise program specifically designed for substance abuse rehabilitation. 89% of patients reported wanting to initiate an exercise programme within the first 3 months of sobriety. Exercise preference and barriers varied across gender.
Buchowski et al (2011) USA	Examine the effects of moderate aerobic EX on cannabis craving and use un dependent adults under normal living conditions.	Intervention - Before/After Ex group: 10 daily 30 min treadmill sessions at 60% of maximal aerobic capacity - pre and post cannabis use tests	N=12 individuals with cannabis addiction	Substance use: Decreased cannabis use within the exercise period and at 2-week follow-up as compared to baseline. Decreased craving following exercise. Reduced urge to use alcohol and drugs Increased ability to control drug use.
Mamen et al (2011) Norway	To explore possible Changes in mental distress following individualized physical training in patients suffering from chemical dependence	Intervention - Before/After 150-500 hrs of training with dedicated partners (volunteers) Activities included Jogging, cycling, cross-country skiing, swimming, aerobics, mountain hiking, and ball games. Lactate profile running and cycling tests, maximal oxygen	N=33 individuals with addiction to alcohol and/or drugs	Substance use: No sig changes in tests for substance abuse. Physical outcomes: Sig improvement in aerobic power and lactate threshold performance.

Marefat et al (2011) Iran	Investigate the effects of yoga exercises on addict's depression and anxiety during rehabilitation period.	RCT Ex group: Yoga training protocol3x60min session per week Con group: Standard treatment package. Pre and post: BDI, STAI anxiety and depression scores.	N=24	Psychological outcomes: Ex group had sig improvement in anxiety and depression scores.
Neale et al (2012) UK	Investigate heroin users' views and experiences of PA, sport and exercise	Qualitative - ethnographic interviews	N=40 heroin users	Participants were very interested in sport and exercise. They engaged in a wide variety of activities. They did little structured sport or exercise during periods of heavy heroin use. They still often walked or cycled while using. Enjoyment was a key feature of being physically active in treatment and in early recovery. Individuals reported diverse health, and social gains were reported including reduction of use.
Stoutenberg et al (2012) USA	Assess physical activity level, and perceived benefits and barriers to exercise in a group of methadone-maintained smokers	RCT PE intensity measured by individualized kilocalorie per kilogram per week expenditure. PBE, BoE, Previous PE levels.	n=305 individuals on methadone maintenance.	Participants perceived many benefits of exercise and few barriers. 38% of participants met weekly recommendations for PA. 25% reported no physical activity. Those who met recommended guidelines were significantly more likely to endorse relapse prevention as a benefit of exercise.
Brown et al (2014) USA	Explore the impact of aerobic exercise upon alcohol dependence	RCT Ex group: 12-week moderate intensity, group aerobic exercise. Con group: brief advice to exercise intervention. Health questionnaire & physical activity screen; Breath analysis; Structured Clinical Interview; Timeline follow-back; Depressive symptoms; Anxiety symptoms; Self-efficacy for alcohol abstinence	N=38 alcoholics	Study findings indicate that a moderate intensity, group aerobic exercise intervention is an efficacious adjunct to alcohol treatment. Improving adherence to the intervention may enhance its beneficial effects on alcohol use.

Landale & Roderick (2014) UK	Track substance-misusing offenders engaging in a community-based sports programme – Second Chance	Biographical interviews - followed over the course of a year- interviewed individually 3 times	N=2 males	Second Chance offered participants a space for the opportunity for change, within which an identity transformation was occurring for some respondents. This transformation, and subsequent desistance, was facilitated through a confluence of meaningful routine activities, informal social controls and personal agency, both within and outside of Second Chance.
Flemmen et al (2014) USA	Aimed to examine the feasibility and effect of high intensity interval training in SUD patients in clinical treatment in the present study	RCT – quant - training group, treadmill interval training in 4 × 4 minutes at 90–95% of maximal heart rate, 3 days a week for 8 weeks, or a conventional rehabilitation control group CG. VO2, HR and MH measurements	N=24 diagnosed with SUD. All in treatment clinic.	No between-group differences were observed in work economy, and level of insomnia or anxiety and depression, but a significant within-group improvement in depression was apparent for the TG. High intensity training was feasible for SUD patients in treatment.
Hallgren et al (2014)	Pilot study exploring the feasibility of yoga as part of a treatment program for alcohol dependence	RCT – either treatment as usual or treatment and yoga – baseline measurements (Alc consumption, quality life, stress etc…) and 6 month follow up	N=18 alcohol dependant patients	Yoga was found to be a feasible and well accepted adjunct treatment for alcohol dependence. Alcohol consumption reduced more in the treatment as usual plus yoga group (from 6.32 to 3.36 drinks per day) compared to the treatment as usual only group (from 3.42 to 3.08 drinks per day). The difference was, however, not statistically significant.
Gimenez-Meseguer et al (2015) Spain	Evaluate quality-of-life changes in drug-dependent patients after participation in a group-based exercise program.	Mixed – Quant= quality of life, fitness measurements (walk test, get up and go test, chair stand test) – Qual= in-depth interviews	N=37 drug dependant patients – Qual N=11 from original group	Quant= improvements in fitness and different aspects of quality of life, such as physical function, mental health, vitality, social function, and general health perception. Qual= physical benefits (decreased injuries and muscle pain,

				decreased weight, and increased vitality with improvement in activities of daily living), psychological benefits (forgetting about everyday problems, improved mood, decreased stress and anxiety), social benefits, and a reduction in craving
Muller & Clausen (2015) Norway	To measure changes in QoL after group exercise among residential substance use disorder patients and to explore the feasibility of the program within a treatment setting	RCT – Group exercise groups, measured QoL, mental distress, somatic health burden and addiction severity	N=35 patients in 4 long-term residential SUD treatment facilities – 24 exercise, 11 none	The program was feasible for participants and the completion rate was 69%. Completers' physical health domain and psychological health domain of QoL improved significantly. The program engaged the most physically and mentally vulnerable participants, and flexibility and motivational factors were important elements
Linke et al (2015) USA	Evaluate: Interest in exercise program to supplement current SUD treatment; and exercise program design considerations among veterans with SUDs	Mixed - surveys and small focus groups	Survey -22 Interviews-17	Veterans with SUDs are interested in exercise, and participants provided perceptive suggestions for modifying an existing evidence-based programme.
Rawson et al (2015) USA	Examine the efficacy of an 8-week exercise intervention on post treatment methamphetamine use among dependent individuals	RCT Ex group: Structured 8-week exercise group Con group: Health education group. Self-reported MA use MA urine drug test Maximal exercise performance test.	N=125 individuals with methamphetamine addiction	Fewer exercise participants returned to MA use. Lower severity users in the exercise group reported using MA significantly fewer days at the three post-discharge time points than lower severity users in the education group
Rawson et al (2015) USA	Determine impact of an 8-week PE program on depression and anxiety symptoms among newly abstinent MA dependent individuals	RCT Ex group: Structured 8-week exercise group Con group: Health education group. Beck Depression Inventory and Beck Anxiety Inventory.	N=125 individuals with methamphetamine addiction	Significant effect of exercise on reducing depression and anxiety. Significant dose interaction effect between session attendance and exercise was found as well

				on reducing depression and anxiety symptoms
Stoutenberg et al (2015) USA	Explore the attitudes, beliefs, and preferences of individuals entering residential AUD treatment.	Survey - exercise attitudes, beliefs, and behaviours. Assessment of substance use and depression	N=120	Respondents were in favour of receiving exercise counselling as part of their treatment. Reported benefits included: improved health, feeling good about oneself, and feeling more confident. commonly reported barriers to exercise training included transportation issues, lack of motivation, knowledge, and proper equipment, and cost.
Beitel et al (2016) USA	Assess PA levels, chronic pain, psychiatric distress, and interest in exercise group participation among adults seeking MMT.	Survey - self report PA levels, chronic pain, psychiatric distress and interest on exercise group participation	N=303 Opiates addiction	27% met recommended physical activity levels, and 24% reported interest in exercise group participation. Participants with chronic pain had higher levels of psychiatric distress and were less likely to be active but did not differ in their interest in participating in an exercise
Brown et al (2016) USA	Examine the acute effects of moderate intensity exercise on changes in mood, anxiety and craving from pre- to post-exercise at each week of a 12-week moderate intensity exercise intervention with sedentary alcohol dependent adults	RCT - 20 -40 mins each session, rating mood anxiety and cravings in present moment before and after over 12 weeks	N=26	provides provisional support for a change in mood, anxiety and alcohol cravings for the role of exercise in the early recovery period for alcohol dependence. Acute single bouts of moderate-intensity exercise may help individuals with alcohol dependence manage mood, anxiety, and craving thereby reducing relapse risk, but further research is needed with a more rigorous study design.
Ciccolo et al (2016) USA	Examine the acute effect of resistance exercise on affect, arousal, and drinking urges in	RCT – exercise group and group that watched an educational film	N=14 both groups, urban dwelling young adults from a	Significant improvements in affect and arousal, but not urge to drink, were found with exercise. Concludes that a single

	young adult (ages 21–40) hazardous drinkers		community setting. Had to have an in person alcohol use disorders identification test	session of resistance exercise can positively alter affect and arousal during alcohol abstinence.
Unhjem et al (2016) USA	Explore maximal strength training as physical rehabilitation for patients with SUD	RCT Ex group: Maximal strength training (85-90 % of 1 repetition maximum (1RM)) 3 times a week for 8 weeks. Con group: Conventional clinical activities. Hack squat 1RM Plantar flexion 1RM Hack squat rate of force development and peak force. Neural function (voluntary Vwave)	N=24 individuals with general SUD	Increased hack squat 1RM, plantar flexion 1RM, hack squat rate of force development and peak force., improved neural function in EX group
Wang et al (2016) China	Integrate behavioural and neuroelectric approaches for determining the dose–response relationships between exercise intensity and methamphetamine (MA) craving and between exercise intensity and inhibitory control	RCT Ex group: Light, moderate, or vigorous intensity Con group: Reading control group. Craving assessment Inhibitory control assessment	N=92 individuals with methamphetamine addiction	Reduction in self-reported MA craving scores of the moderate and vigorous intensity groups was greater than that of the light intensity and control groups during acute exercise as well as immediately and 50 min following exercise termination.
Colledge et al (2017) Switzerland	Employ a randomized design in a pilot trial to assess the feasibility, acceptance, and effects of an exercise intervention for individuals receiving outpatient heroin-assisted treatment.	RCT – 12 weeks of exercise twice a week. Attendance, compliance, numerous psychological and physiological measurements	N=50 receiving heroin assisted treatment at clinic.	An exercise intervention is a feasible and accepted supplementary therapy to heroin-assisted treatment. Participation rates were high, particularly given the outpatient setting. No evidence regarding the potential mechanisms of exercise as a therapy modality could be identified. Patients in heroin-assisted treatment may require a longer-term exercise programme,

				specifically targeting health parameters, before measurable improvements can be observed.
Diamantis et al (2017) Greece	To explore perceptions of drug addicts regarding the exercise component of attending an abstinence-based residential rehab programme.	In-depth individual interviews and focus group interviews – observations	N=12 adult m in drug rehab.	Exercise ad significant impact. Increased self-esteem, confidence, mood, self-awareness and various behavioral changes. Exercise facilitated bonding and communication among participants – all contributed to retention to treatment and reduced resistance.
Fitzgerald (2017) UK	Explores the experiences of and perceived benefits for recovering addicts participating in Physical Exercise (PE) as an adjunctive treatment alongside their rehabilitation programme	Ethnographic techniques (observations/interviews) - emic perspective. Circuit and yoga classes.	N=23 rehab patients	Recovery characterised as centred upon reforming the habitus. Increased confidence, fitness, strength, positive body image, self-efficacy and decreased levels of anxiety and stress attributed to PE were also found to aid positive habitus development.
Roessler et al (2017) Denmark	To examine whether physical activity as an adjunct to outpatient alcohol treatment influences alcohol consumption following participation in an exercise intervention of six months' duration, and at 12 months after treatment initiation.	RCT – Quant – primary outcome measure was excessive drinking six months after treatment start and completion of the intervention/ Patients allocated to (A) treatment as usual, (B) treatment as usual and supervised group exercise, (C) treatment as usual and individual physical exercise	N=175 alcoholics	No direct effect of physical exercise on drinking outcome was found. Moderate level physical activity was protective against excessive drinking following treatment. A dose-response effect of exercise on drinking outcome supports the need for implementing physically active lifestyles for patients in treatment for alcohol use disorder.
Alessi et al (2019)	his study evaluated the efficacy of a CM-reinforced exercise intervention as an adjunct to standard outpatient substance use disorder treatment	randomly assigned to standard care with CM for completing exercise goals or CM for completing general non exercise goals weekly for a 4-month treatment period. Urine samples were tested for	N=120 patients with SUD	Results found that the CM-exercise condition demonstrated during-treatment improvements on several physical activity and relevant psychosocial functioning indices (e.g., self-efficacy for exercise). The

		evidence of illicit substance use up to twice a week during treatment and at follow-ups through month 12.		CM-exercise condition had no advantage relative to the CM-general condition in decreasing substance use. Overall, this study adds to a small body of well-powered trials assessing effects of exercise interventions as adjunct treatment for substance use disorders and finds no benefit over an alternate CM approach in terms of drug abstinence
Jensen et al (2019) Denmark	The aim of this study is to compare the effect of exercise training on physical capacity and alcohol consumption in alcohol use disorder (AUD) patients	RCT – Treatment alongside running and brisk walking, control group no running – assessments at 6 and 12 months	N=105 AUD patients	Effect on drinking habits in running groups. No additional effect when compared with the control group. A drop in training frequency during the intervention might have resulted in insignificant results. High dropout rates of intervention groups 1 month in.
Ellingsen et al (2020) Norway	Examined the short-term psychological effect of 2 types of physical activity, soccer and circuit training, in patients with SUD	RCT w/cross over design - 3 conditions, each 45 mins, within one week	n=38 (25 completed) patients from 4 inpatients centres	Exercise sessions were perceived as "somewhat hard" to "hard". Compared to control, there was an immediate reduction in craving after soccer and circuit training that persisted for 4 hours. Elevations in mood after soccer and circuit were sig larger than control. Depressive disorder and primary drug of use might moderate the effect. Reduced drug cravings and elevated mood following soccer and circuit training were observed in people with poly-SUDs. Single exercise sessions can be an effective strategy to alleviate craving and potentially prevent relapse and treatment drop-out.

Fitzgerald et al (2020) UK	Aims to gauge the impact of therapeutic yoga upon mood state of SUD and explore perceived benefits of classes on participants.	Community as method approach. POMS - shortened. 7 participants ethnographically interviewed - thematic analysis.	N=34 participants in rehab for SUD	Significant relaxation and reduced negative mood states – daily coping
Brellenthin et al (2021)	Examined the effects of aerobic exercise, in addition to intensive outpatient treatment on psychological variables and endocannabinoids in individuals with SUD	RCT - treatment as usual and exercise or treatment as usual groups. Exercise was 30 mins moderate aerobic training 3x per week for 6 weeks	n=21 SUD patients	Over 6 weeks, there were reductions in perceived stress ($p < 0.01$) and craving ($p < 0.05$) for both groups. There were no group differences in abstinence rates or changes from baseline in self-efficacy, depression, or anxiety ($p > 0.05$). Acutely, both exercise and quiet rest sessions led to reductions in craving, tension, depression, anger, confusion, and total mood disturbance (all ps < 0.05). In addition, the exercise group experienced acute increases in Vigor and circulating concentrations of the endocannabinoid, anandamide ($p < 0.01$).
Dowla et al (2021) Australia	Pilot study investigates the exercise capacity of patients with substance use disorder and effects of an acute bout of exercise on affect.	Quant - mood measurements before and after exercise assessments using subjective experience to exercise scale	n=29 individuals admitted to a withdrawal management facility	Exercise is both feasible and beneficial in a withdrawal management setting. Capacity to perform exercise was generally poor with high individual variance. Design of future interventions will need tailored prescription for patients in this population.
Fagan et al (2021) Canada	To examine the acceptability of exercise as an adjunct treatment for individuals in residential treatment for SUD. The secondary objective is to guide	Semi structured interviews - thematic analysis	n=15 with SUD in residential treatment	Exercise was considered an acceptable adjunct treatment for SUD. Three themes were identified as prudent for informing intervention development. Participants were 1) receptive to exercise but some

	exercise intervention development for this population.			lacked the knowledge and skills to participate; 2) aware of opportunities to exercise but these are often underutilized, and 3) looking ahead to life after treatment.
Gawor et al (2021) UK	To examine the effects of an exercise circuit on alcohol craving in university students	RCT 3 conditions - Exercise (intervention), distractions (colouring as an active control), or passive control	n=60 university students	A short exercise circuit significantly reduced alcohol craving, whilst also eliciting beneficial effects on mood and anxiety.
Hallgren et al (2021) Sweeden	Examined the short-term effects of acute exercise on alcohol craving, mood states and state anxiety in physically inactive, non-treatment seeking adults with AUD	RCT, Exploratory, single-arm study, part of larger RCT - 12 min submaximal fitness test on cycle ergometer - participants self-rated desire for alcohol, POMS and state anxiety 30 min pre-exercise, immediately before, immediately after, 30 in post	n= 140 adults with alcohol use disorder	A short bout of aerobic exercise reduced alcohol craving and improved mood states in adults with AUD.
He et al (2021) China	Examine the impacts of an exercise intervention on drug dependence of patients with amphetamines addiction by improving dopamine levels and immunity and reducing negative emotions	RCT - Exercise group (1-hour aerobic exercise alongside treatments) and treatment as usual	n=90 male patients with amphetamine addiction	Psychological status, drug craving, immune function, DA and QOL of patients with amphetamines addiction have been improved after exercise intervention.
Yang et al (2021) China	Aimed to compare the effects of HIIT versus MICT on the physical fitness of individuals with SUD	RCT - One HIIT group and MICT group training 3 times per week for 12 months	n=120 individuals with amphetamine-type stimulant dependence	After 12 months of intervention, physical fitness improved while craving level decreased in the two groups. These findings suggest that both HIIT and MICT have positive effects on individuals with SUD in terms of physical fitness.

Zhu et al (2021) China	To examine, from behavioural perspectives, the feasibility of applying group-based aerobic exercise as an adjunct to treatment aimed at improving the cognitive functions and emotions of substance use disorder (SUD) patients.	RCT - Exercise group (aerobic moderate intensity for 3 month) and control group)	n= 83 male methamphetamines use disorder patients recruited through isolated detoxification centres	The 3 months group-based aerobic exercise program showed beneficial effects for cognitive functions, emotions, cravings, and physical fitness among SUD patients (i.e., methamphetamine use disorder patients), and can thus be considered as a potential therapeutic candidate for addiction rehabilitation. (PsycInfo Database Record (c) 2021 APA, all rights reserved)
Panagiotounis et al (2022) Greece	Examined the short-term effects of an exercise intervention on drug craving, mood states, self-esteem, quality of life, and treatment engagement at the early stage of SUD treatment	RCT - non-randomly assigned group to a structured 4-week exercise intervention alongside treatment as usual and other group treatment as usual only	n=54 adults using multiple substances, newly entries into an inpatient treatment setting	Exercise group demonstrated higher scores on self-esteem, quality of life, and treatment engagement, and lower scores on craving and mood state (anxiety, depression, and stress). The outcomes of the study provide initial evidence that a targeted and properly designed exercise delivery, which is adapted to the needs of the various and decisive treatment stages, may offer specific benefits to individuals living with SUD.
Xu et al (2022) China	The study aimed to determine the effects of a 12-week aerobic exercise on the social, physical, and mental health of MA-dependent individuals.	Randomly assigned into two groups. Subjects in the exercise group received an exercise intervention five days a week for 60 min each for 12 weeks. Subjects in the control group received regular corrective rehabilitation without exercise in the same setting. Outcome measures, including questionnaires [quality of life scale for drug addiction (QOL-DA), self-rating anxiety scale (SAS), self-rating depression scale (SDS), and	N=60 N=30 in exercise group N=30 in control group	Aerobic exercise intervention is an effective treatment for MA-dependent individuals, and the 12-week intervention improved the social, physical, and mental health of MA-dependent individuals. We recommend that future studies focus more on drug-dependent individuals' overall health status rather than just relapse

		Pittsburgh sleep quality index (PSQI)] and physical fitness, were arranged the day before the start of the intervention and the day after the end of the intervention		
Torok et al (2023) Finland	The purpose of this study was to investigate the effects of acute, controlled bouts of aerobic and resistance exercise versus sedentary control (quiet reading) on positive affect (PA) and negative affect (NA) in females undergoing SUD treatment at inpatient facilities	Participants randomly assigned to each condition in counterbalanced fashion. Aerobic exercise (AE) consisted of 20 minutes of steady-state moderate intensity (40-60% HRR) treadmill walking. Resistance exercise (RE) consisted of 20 minutes of standardized circuit weight training (1:1 work to rest ratio). The Positive and Negative Affect Scale (PANAS) was used to assess PA and NA pre- and post-interventions.	N=11 females with SUD	Repeated measures ANOVAs indicated AE and RE significantly increased PA ($p < 0.05$) versus control, with no significant difference between AE and RE. Friedman's test revealed AE and RE significantly reduced NA ($p < 0.05$) versus control. Results indicate short bouts of aerobic and resistance exercise are equally effective for acute mood regulation and superior to a sedentary control in females undergoing inpatient SUD treatment.

Meta Analysis

Author/Year	Aims/Research Question	Findings
Zschucke et al, (2012)	Reviews studies addressing the therapeutic effects of exercise in alcohol abuse/dependence, nicotine abuse/dependence, and illicit drug abuse/dependence	Smoking cessation, evidence is strong for exercise as an effective adjuvant treatment, whereas no generalizable and methodologically strong studies have been published for alcohol and drug treatment so far, allowing only preliminary conclusions about the effectiveness of exercise in these disorders.
Wang et al (2014)	To examine whether long-term physical exercise could be a potential effective treatment for SUD	Physical exercise can effectively increase the abstinence rate, ease withdrawal symptom, and reduce anxiety and depression. The physical exercise can more ease the depression symptoms on alcohol and illicit drug abusers than nicotine abusers, and more improve the abstinence rate on illicit drug abusers than the others. Similar treatment effects were found in three categories: exercise intensity, types of exercise, and follow-up periods.
Bardo & Compton (2015)	Examine recent literature to determine our state of knowledge about the potential ability of physical activity serve as a protectant against drug abuse vulnerability	Preclinical evidence is solid in showing that physical activity in various forms is able to serve as both a preventive and treatment intervention that reduces drug use, although voluntary alcohol drinking appears to be an exception to this conclusion.
Gimenez-Meseguer (2020)	Systematic review and meta-analysis to identify the effect of physical exercise on mental disorders, quality of life, abstinence, and craving, and make a comparison of the effect of exercise depending on the type of program	Available evidence indicates that physical exercise, both body-mind and physical fitness programs, can be effective in improving mental disorders, craving, and quality of life in drug-dependent patients.
Dowla et al (2022)	Review research that looks at impacts of exercise interventions on various measurements of mood anxiety etc… for SUD	Included studies had numerous methodological flaws therefore results need to be interpreted with caution. Further research needs to be completed with more rigorous methodologies to support these results. Conclusions: Results indicate promising responses to exercise as a novel intervention for quality of life and mood in substance use disorder, however further research of high methodological quality is needed to confirm.

Patterson et al (2022)	Systematically review scientific studies using exercise as a means to improve, sustain, or treat addictions, and to provide suggestions for the future use of exercise as a treatment method for addiction.	Nearly three quarters of the studies reviewed documented a significant change in addiction-related outcomes (e.g., more days abstinent, reduced cravings) in response to exercise exposure, particularly while someone was receiving treatment at an in or outpatient clinic.
Shreffler et al (2022)	Evaluate the evidence to support physical activity interventions for individuals with opioid use disorder	Results indicated different exercise modalities led to positive outcomes related to immune function, reduction of pain, cravings, anxiety and depression, as well as improvements in mood and quality of life
Li et al (2023)	Systematically review the effects of different exercise intensities on withdrawal symptoms among people with SUD	Overall, exercise leads to improvements in withdrawal symptoms in individuals with SUD, but these effects vary significantly between the exercise of different intensities and according to the type of withdrawal symptoms. Moderate-intensity exercise has the greatest benefits in improving depression and anxiety; high-intensity exercise has the greatest benefits in improving withdrawal syndrome
Dawes et al (2024)	Systematically synthesise evidence of physical activity interventions for people experiencing homelessness (PEH).	Qualitative evidence suggests that physical activity interventions for PEH can benefit health and well- being with positive translation to wider life. There was limited positive quantitative evidence, although most was inconclusive. Although the evidence suggests a potential recommendation for physical activity interventions for PEH, results may not be transferable outside high- income countries. Further research is required to determine the effectiveness and optimal programme design.
Zheng et al (2024)	Investigate the impact of different modes of physical exercise on the emotional and cognitive levels of patients with SUD	Physical exercise mitigates anxiety and depression while enhancing cognitive function in SUD patients, making it an effective measure for adjunctive clinical treatment