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Abstract

In this article we theorise and explain Exercise is Medicine (EiM), as indicative of broader physical activity (PA) health promotion, from a sociological perspective through the lens of health equity. Data were collected through two independent ethnographic studies that bookend the EiM endeavour: the production of knowledge in the laboratory, and the creation and implementation of health policy and PA interventions. First, we demonstrate how conceptualising exercise as medicine assumes narrow pathology and (prescribed) solution *a priori*, which has given rise to a new form of movement intellectuals. Within such context we explain how the study of physical (in)activity (especially by exercise scientists) is shaped by broader social and political contexts of the university sector and disciplinary legitimacy produced through alignment with other (medical) institutions. Second, we review the 'causes of the causes' of ill-health and wider social determinants of health as related to exercise. Presenting exercise as a 'therapy of freedom' that is to some extent epiphenomenal we examine the social inequalities and lifestyle drift which inhibit equitable access to this health promoting behaviour. We then outline an original qualitative methodological development: duoethnographic creative nonfiction, which has enabled the synthesis of two independent ethnographic studies. Findings of this accessible and engaging methodology, in the form of two stories, *show* the need for an alternative approach that values activity, prioritises equity, and underscores methodological collaboration. For this reason we conclude by proposing greater interdisciplinarity by aligning EiM with the Behavioural Justice Movement.

Introduction

> The person who does not exercise, in our current conception, is a slow suicide. He [sic] fails to take responsibility for his [sic] life. He [sic] doesn't labor strenuously to forestall his [sic] death. Therefore we begin to think he [sic] causes it. It may be a comfort to remember when one of your parents' acquaintances dies that he [sic] did not eat well or failed to take up running. The nonexerciser is lumped with other unfortunates who we socially discount. Their lives are worth a percentage of our own, through their own neglect. Their value is compromised by the failure to ensure the fullest term of possible physical existence. The nonexerciser joins all the unfit: the slow, the elderly, the hopeless, and the poor. "Don't you want to 'live'?" we say. No answer of theirs could satisfy us.
>
> Mark Greif in his essay *Against Exercise* (2016, p.8)

The opening passage comes from *Against Everything* by cultural critic Mark Grief. Grief explained being against everything is not mere contrarianism, but challenging the status quo to open new possibilities for thought. In this aim Grief shares much with Metzl and Kirkland's (2010) edited collection *Against Health: How Health Became the New Morality* which advocated challenging dominant constructions of health as a 'concept, a norm, and a set of bodily practices whose ideological work is often rendered invisible by the assumption that it is a monolithic, universal good' (Metzl 2010, p.9). Grief highlighted this ideological work by exploring cultural exaltation of exercise and concomitant denigration of 'nonexercisers'. In this vein we are *against* exercise. However, a foundational assumption of this paper is that physical activity (PA)[1] can and does improve health and wellbeing. Viewing exercise from a sociological perspective through the lens of health equity, we argue framing inactivity as individual deficiency is neither accurate *nor effective*. Said differently, *because* we value PA we argue it is necessary to be *against exercise* in its current conception and promotion as medicine, especially for inactive and unhealthy individuals.

In this article we theorise and explain how Exercise is Medicine (EiM)[2] is articulated through health inequalities. The first section provides the framework for our analysis by demonstrating how conceptualising exercise as medicine assumes narrow pathology and (prescribed) solution *a priori.* Within such context we note how the study of physical (in)activity (especially by exercise physiologists) is shaped by broader social and political contexts of the university sector and disciplinary legitimacy produced through alignment with other (medical) institutions. The subsequent section reviews the 'causes of the causes' of ill-health and wider social determinants of health as related to exercise

[1] This shift in language - from exercise to PA - is a purposeful one, which largely reflects longstanding differentiations (Caspersen, Powell, and Christenson 1985). Our shift is in part a critique of 'exercise' used in the expansive sense by proponents of EiM (i.e., exercise is to be prescribed for inactivity). Also in part as an acknowledgement of the evidence-base that has established physical activity more broadly as being beneficial to health (e.g., Warburton et al. 2006). We acknowledge exercise, physical activity and sports participation are not synonymous and that the practice of each will have different - and can have detrimental - health outcomes.

[2] We use EiM to encompass both the Exercise is Medicine® initiative *and* conceptualisations/practicing of exercise to improve physical performance as a proxy for health (cf. Bauman 2000, pp.78-80) and/or as a preventative healthcare practice (see also: Malcolm 2017; Smith 2016). Where necessary to differentiate we use more specific terminology.

(Marmot 2005, Rose, 1992). In so doing we need not dispute physiological efficacy of exercise, or critique extension and/or replication (legitimate or otherwise) of medical authority vis-à-vis exercise (Busfield 2017; Smith 2016). Nor do we follow the well-worn paths problematising relationships between body management norms, health, and appearance (e.g., Evans *et al.* 2008).

Instead we outline how treating exercise as medicine, including advocating incorporation of exercise into clinical encounters and concomitant prescription, is an ineffective approach to realising the benefits of PA. There we foreshadow issues related to the need for further methodological dialogue regarding PA promotion. Particularly dialogue that does not place qualitative research as the handmaiden of quantitative data. As such, we focus implicitly on challenges and opportunities for interdisciplinarity. We advocate genuine interdisciplinarity, and in so doing address the 'unhelpful interplay' (Lunde et al. 2013, p.197) between researchers (see also: O'Cathain et al. 2008). Consequently, we appreciate the potential use of exploring the theoretical and motivational space between EiM proponents and opponents and facilitating collaboration between them. Indeed, their differences notwithstanding, most will share the same ultimate goal: greater research impact achieved through reducing inactivity in order to promote health and wellbeing.

Data have been collected through two independent ethnographic studies that bookend the EiM endeavour: the production of knowledge in the laboratory, and the creation and implementation of health policy and PA interventions. Particular attention is devoted to how we have developed duoethnographic creative nonfiction as a novel methodological approach to enable synthesising data and facilitate interdisciplinary border crossing. Findings are presented as two duoethnographic creative nonfiction stories. These form the launchpad for our avocation of aligning efforts to reduce inactivity *and* inequality through critical collaboration informed by a social justice agenda.

Physiological Rationale for Exercise as Medicine: Movement Intellectuals

Exercise is Medicine® is a healthcare initiative launched by the American College of Sports Medicine and the American Medical Association in 2007. It aims to: ensure exercise is thought of as a medication to be prescribed to patients; make activity assessment and prescription a standard part of the disease treatment and prevention paradigm; facilitate merging of the fitness industry with the healthcare industry (Sallis 2009). Beyond this specific initiative, the EiM mantra is highly influential - especially within sport and exercise research groups (Andrews et al. 2013) - but also much criticised (Neville 2013; Smith 2016). Critique has focused on reductionist perspectives that emphasise physiological effects and concomitantly presupposes knowledge (read: ignorance) and motivation (or lack thereof) determines health related behaviour. In this regard, EiM approaches reflect the findings of Holman et al. (2017) who identified health behaviour interventions more broadly have

largely failed to acknowledge the importance of cultural and social contexts. We outline the forces maintaining the status-quo before arguing *both* EiM proponents *and* critics would benefit from a change in approach.

A crucial component of our analysis is revealed in a Special Issue of the *British Journal of Sports Medicine*. Blair's (2009) introduction, entitled 'Physical inactivity: the biggest public health problem of the 21st century', followed by Sallis' (2009) editorial 'Exercise is medicine and physicians need to prescribe it!' presents inactivity as the scourge of modernity and exercise as the cure. Yet, we argue, inactivity as a cause of ill-health does not inevitably make exercise promotion the cure. Here we are reminded of Dubos' (1959, p.102-103) argument:

> It is true that in a few cases - far less common than usually believed – the search for the cause has led to effective measures of control. But it does not follow that these measures provide information as to the nature of the trouble that they correct. While drenching with water may help in putting out a blaze, few are the cases in which fire has its origins in a lack of water.

We do not dispute inactivity substantially contributes to non-communicable disease burden, nor the health promoting potential of PA. Equally, our purpose is not further interrogation of the medicine metaphor (Smith, 2016). Rather we argue focus on physiological effects of exercise as rationale for public health strategy as inherently limiting.

The articulation of physiological rationale in the EiM approach reveals a great deal about the status and ambition of exercise science. Indeed, Blair (2009, p.1) revealed '[m]y overriding concern is that the crucial importance of physical activity is undervalued and underappreciated by many individuals in public health and clinical medicine'. Exercise science is a field working to establish legitimacy in increasingly competitive environments driven by business logics and market principles (Andrews et al*.* 2013, Sparkes, 2013). As such, structural factors strongly incentivise simplification of the complexities of health and overstatement of potential research impact (Chubb and Watermyer, 2016). This in turn influences the evidence base and rhetoric of scientists (Vinkers *et al.* 2015). Within exercise physiology, a vanguard of exercise science and key interlocutor of EiM, a new *movement intellectualism* (Turner, 2012) is evident.

Turner (2012) explains movement intellectuals 'adopt theoretical positions that are to a large extent the outcome of political advocacy' (p.9). Said differently, movement intellectuals' work mutually supports particular political and social values. EiM movement intellectuals: limit critical questioning of exercise despite consensus being less conclusive than evidence suggests (Gard, 2011; Piggin and Bairner, 2016); underplay and/or omit opportunity costs of exercise (Malcolm, 2017); and claim exercise positively influences virtues unknowable and indemonstrable in their methodologies (Feyebrand, 2011). A process Henry (2002) described as confusing biology with life itself. For example, Ji *et al*. (2008, p.15) articulate exercise physiology's importance 'mainly because it addresses a critical

issue of the society [sic], that is quality of life'. Thus rearticulating longstanding identification of political values shaping the structure of theories, what counts as evidence, and how evidence is to be presented (Keller, 1992).

Underpinning movement intellectualism in this case are quintessential facets of medicalisation (Busfield, 2017). For example, histories of exercise physiology written by exercise physiologists (e.g., Berryman 2010; Nomikos *et al.* 2016; Tipton 2014) extol empirical consistency to claim longstanding but underappreciated contributions of exercise to healthcare thereby legitimising the field vis-à-vis the cultural authority and scientific validity of medicine (Heggie 2013; Malcolm 2017). Furthermore, exercise physiology identifies 'causes and solutions to complex social problems in the individual rather than in the social system' (Conrad 1975, p.19). Concomitantly the field works as 'remarkable "depoliticizers"' (Zola, 1972 p.500) which encourages and benefits from investment and focus on physiological, rather than social or political, foundations for interventions. Consider the following.

Franklin *et al.* (2009) argued the medical community needs to take clinical exercise physiologists more seriously and employ them in greater numbers because:

> Behaviour patterns have the single greatest impact on premature death and disability, surpassing genetic predisposition, social circumstances, healthcare availability and environmental exposure. Health and wellness coaching improves self-efficacy – that is, the individual's ability to formulate and implement a successful plan while addressing compliance barriers.

Predictably Franklin *et al*. (2009) feel it is possible and appropriate to remove behaviour patterns from the influences they listed thereafter. Similarly, Ji *et al.* (2008, p.16) propose studying childhood obesity 'caused by lack of physical activity in a low-income community' means we '*must* study the hormonal, muscular, cardiovascular, and nutritional factors contributing to obesity; we *must* assess children's activity levels at school and after school; and we *must* analyse their family history and genetic factors' (emphasis added). Whereas: 'we might also examine the psychological and socioeconomical issues preventing their participation in physical activity' (Ji *et al*. 2008, p.16). Both Ji *et al.* (2008) and Franklin *et al.* (2009) predetermined inactivity causes illness. Subsequent labelling of genetic predispositions, and social and environmental circumstances as 'compliance barriers' requiring coaching, or side issues possibly warranting attention illustrates fundamental flaws in the perspective.

Physiological rationale allows exercise scientists to present clear, concise, intuitively obvious, and politically expedient direction (alongside cultural legitimacy and access to research funds). However, it also narrows margins of perception. Thus obscuring understanding exercise as a social practice and overemphasising the role of healthcare systems in addressing inactivity (Bamba *et al.* 2011). Simply put, physiological rationale inherently locates foci for intervention within an individual. Therefore 'individuals are expected to change, not social institutions and practices' (Busfield 2017,

p.762). Correspondingly, physiological rationale (and epidemiological evidence) for exercise regardless of quality or rigor inherently treats society as little more than aggregated individuals.

While Turner (2012) had academics studying the body from social constructionist perspectives – especially those hostile to biophysical sciences - in mind when mooting movement intellectualism, our research illustrates advocacy as a result of theoretical inclinations and paradigmatic axiologies is indelibly linked to political values and economies, not just epistemological assumptions. In the context of EiM, academics studying exercise from biophysical perspectives and policy makers are evidently also susceptible to *movement* intellectualism and therefore cannot 'clearly articulate the problems of human suffering, pain and misery' (p.10). Resultantly, addressing inactivity and ill-health by promoting individual behaviour change via the medical model is both ineffective and counter-productive.

Exercise is Epiphenomenal: An Argument for Addressing the Social Determinants of Health

Since at least the 19th Century a chasm has existed between two central views about how best to promote health and prevent disease at population level. Views are divided by their focus on either: (i) modifying unhealthy behaviours or; (ii) the underlying social and economic factors that primarily determine health outcomes (Baum and Fisher, 2014). The first approach is broadly termed new public health and is distinct from previous incarnations of public health (and the latter approach) for emphasising individual risk-management through 'lifestyle' (Kottow, 2012, Petersen and Lupton, 1996). Health behaviours (e.g., regular PA) have thus come to the fore of public health policies. Rose (2001, p.18) explained the promotion of this 'somatic individuality' as the State attempting to abdicate responsibility for securing individuals against illness. Such framing of health facilitates governing 'at a distance' by shaping the ways people 'understand and enact their own freedom' (Rose 2001, p.6).

Capturing the influence of this new dynamic between health and morality, Herrick (2011, p.5) argued contemporary citizens of advanced liberal societies contend with inescapable 'codes of sensibleness' which shape common sense principles about good and bad ways (in both pragmatic and moral terms) of living. Because individuals are now seen to have greater freedom to choose, codes of sensibleness are promoted as a reminder of their duty to themselves and others to act responsibly. In this case by exercising regularly. Heightened notions of choice means people are obliged to pursue freedom by maximising health and acting upon the advice of experts who present them with 'therapies of freedom' (Rose, 1999: 261). The significance of conceptualising exercise as a therapy of freedom becomes apparent when considering why ubiquitous knowledge of its elixir-like qualities has not resolved the issue of inactivity.

198 This new moralisation of health has been mobilised by emphasising the economic burden
199 illness places on the State and labour market oftentimes limiting health promotion investment to
200 'unsophisticated IEC (information, education and communication) projects' (Nutbeam 2008, p.439).
201 For example, the UK's much critiqued Change4Life campaign (Evans et al 2011, Piggin and Lee 2011).
202 Such an approach assumes non-compliance is attributable to the 'deaf ears phenomenon' (Warin et
203 al 2008, p.99) and thus implies inactivity is primarily caused by a lack of awareness. This logic leads to
204 exercise referral becoming the intervention of choice for the UK National Health Service (Oliver *et al*.
205 2016) and a priority for the EiM movement (Sallis 2009). However, this undermines structural
206 inequalities, social processes and local settings that both impinge upon people's health and their
207 capacity to adopt 'healthy lifestyles' (Dorling, 2013; Marmot, 2010). Although it is possible to frame
208 unhealthy behaviours as causes of ill-health we argue analysis of inequalities associated with healthy
209 lifestyles is crucial to shifting attention to the 'causes of the causes' and wider social determinants of
210 health (Marmot 2005, Rose 1992). That is, what *causes* people to behave in ways that *causes* ill-
211 health?
212 A growing evidence-base demonstrates an inverse socioeconomic gradient in adherence to
213 health behaviours (Stringhini et al 2011, Pampel *et al.* 2010). Put simply, as you look down the
214 socioeconomic spectrum activity levels and consumption of fruit and vegetables decreases whilst
215 consumption of alcohol and tobacco increases. Additionally, Buck and Frosini's (2012) review of health
216 behaviours highlighted the limitations of IEC health promotion projects. Their study showed despite
217 overall reduction in unhealthy lifestyle behaviours in England between 2003-2008 reductions mainly
218 occurred among higher socioeconomic and educational groups. In short, lifestyle risk factors were
219 unequally distributed. Focusing on increasing awareness did not sufficiently increase opportunity, and
220 as a consequence exacerbated health inequalities. This effect is known as the 'inequality paradox'
221 whereby interventions may be successful at population level but exacerbate existing inequalities by
222 benefitting more affluent groups to a greater extent than less affluent ones (Frohlich and Potvin 2008).
223 As increasing inequality is liable to have detrimental health effects at the national population level,
224 preventing this particular adverse effect should be prioritised (Wilkinson and Pickett, 2010). However,
225 the 'equity harms' caused by 'intervention-generated inequalities' are one of numerous adverse-
226 effects that Lorenc and Oliver (2014) outline and argue, rarely receive adequate attention in either
227 research literature or policy evaluation. This is especially evident with PA.
228 Regardless of how socioeconomic status (SES) is conceptualised and operationalised, research
229 shows individuals of low-SES perform less recreational PA than those with higher-SES (Beenackers et
230 al, 2012, Elhakeem et al, 2017, Farrell et al 2014). This indicates lifestyle focused policy does not
231 support those most in need. Furthermore, evidence indicates that exercise referral schemes

reproduce the inequality paradox (Gidlow et al, 2006). Indeed, supporting those who are currently the least active (<30 minutes a week), the majority of whom are of low-SES, to do 60-90 minutes exercise a week would have the greatest reduction in all-cause mortality risk at population level (Weed 2016). Therefore, strategies focusing on individual lifestyle risk factors are not only ineffective on their own risk reduction terms but are also liable to exacerbate inequalities. Nonetheless policies set to define the future of UK PA promotion still follow ineffective but well-trodden paths (Kay 2016; Weed 2016). For Kay (2016, p.540) PA promotion has been 'weakened by a collective failure to draw on expert analysis of the dynamics of health inequalities'. An alternative approach would be to address the underlying social determinants of PA.

Despite UK health care costs associated with poverty (£29 billion, Bramley *et al.* 2016) dwarfing those associated with obesity (£6 billion, Dobbs *et al.* 2014) and egalitarian moral imperatives to reduce human suffering, reducing poverty and inequality is rarely targeted as a way of improving health (Silverman *et al.* 2016, Dorling, 2010). Coalter's (2013) analysis of international PA participation indicated more equal nations with high levels of social mobility generally have more active populations. Coalter (2013, p.18) subsequently argued substantially increasing UK activity levels is well beyond the limits of PA policies because physical activities are to some extent 'epiphenomenal': 'a secondary set of social practices dependent on and reflecting more fundamental structures, values and processes'.

Furthermore, despite UK government reports consistently showing health inequalities are products of social inequalities (Black 1980, Acheson et al. 1998, Marmot 2010) very little progress has been made addressing either (Bamba *et al.* 2011, Whitehead and Popay 2010). This failure has, in part, been attributed to 'lifestyle drift' (Hunter *et al.* 2010). Lifestyle drift critiques highlight the 'tendency for policy to start off recognising the need for action on upstream social determinants of health inequalities only to drift downstream to focus largely on individual lifestyle factors' (Popay et al. 2010: 148). Consequently, not only is focus on lifestyle ineffective in altering the behaviour of the highest risk (i.e., low-SES) groups it also impedes efforts to address wider social determinants of health that render PA largely epiphenomenal. Therefore, rather than exercise being medicine its ineffectual promotion could instead be said to reduce it to a poisoned elixir doing more harm than good.

Such failure is common to behavioural health promotion but evidence demonstrating limitations and failures of this approach rarely inform policy (Baum and Fisher 2014). For this reason we have adopted an unconventional approach. In an attempt to *show* readers the pitfalls of health interventions almost exclusively informed by exercise science, we utilised creative nonfiction to present findings from two independent ethnographies.

Methodological Bricolage: Writing Duoethnographic Creative Nonfiction

Qualitative Research in Sport, Exercise and Health readers will be familiar with a 2011 Special Issue revealing how (predominantly) quantitative researchers viewed qualitative research. Despite documented power imbalances between methodologies and data (Bairner, 2012, Smith and Brown 2011), mutual appreciation, common ground and a willingness to work together were all evident. Most obviously in Gill's (2011, p.307) explanation of qualitative research reinforcing the importance of context, and exhortation to 'move beyond dualisms to embrace complexities if we are to promote evidence that is truly *for* practice, and physical activity that serves the public'. Similarly Mansfield and Rich (2013) implored scholars, politicians, health professionals and practitioners to engage in 'border crossings' to create critically-informed social action to *support* inactive people. Having conducted independent ethnographies critical of (i) evidence production by exercise physiologists and (ii) PA promotion in health policy, our aim was to adopt a methodology to synthesise our research. Unite our critiques. Enable their sum to bridge borders and facilitate more effective and equitable practice.

This bridge is built on ontological relativism (i.e., reality is multiple, created, and mind-dependent) and epistemological constructionism (i.e., knowledge is constructed and subjective). Recognition of our paradigmatic position was foundational to understanding each other's independent work and establishing whether (and what kind of) synthesis was possible. Emergent collaborative autoethnographic research notwithstanding (e.g., Cragun and Sumerau 2015, McMahon *et al.* 2016) syntheses of independent ethnographies are rare. In existing examples (e.g., Birrell and Turowetz 1979; Donnelly and Young 1988; Puddaphette and Fine 2013) discussion of methodological considerations and challenges regarding data synthesis and presentation is absent.

Noblit and Hare (1988) forwarded meta-ethnography as the first specific method for synthesising ethnographic research. Meta-ethnography provided a foundation for development of approaches for secondary analysis of systematically identified, published qualitative data (Koshoedo *et al.* 2015; Soundy *et al.* 2014; Williams and Shaw 2016). Our purpose bares resemblance to lines-of-argument synthesis (Noblit and Hare 1988). However, meta-ethnography/meta-synthesis was considered inappropriate for our endeavour as we take seriously the ethnographer-as-main-tool-of-data-collection. Therefore, we chose to work together directly rather than through published findings. Our methodology was informed by duoethnography, a collaborative research approach drawing from narrative research and autoethnographic story-telling traditions where researchers 'dialogically critique and question the meanings they give to social issues and epistemological constructs' (Sawyer and Norris 2013, p.2).

Stepwise prescription of method is antithetical to duoethnographers (Breault 2016; Norris and Sawyer 2012; Sawyer and Norris 2013). Generally duoethnography requires: ethnographers finding

each other and agreeing on a topic; generating stories to juxtapose their personal experiences and scholarly analyses and; pushing each other through dialogue 'to engage critically and reconceptualise their perceptions of the world around them' (Given 2012, p.8). Within our discussions we identified a propensity to *parallel talk* (Breault 2016, p.782) where duoethnographers alternatively recount, acknowledge, and affirm transformative monologues rather than conduct critical dialogue. Despite duoethnography being predicated on recognition of 'the need of the Other to liberate the self from the self' (Norris and Sawyer 2012, p.18), like Breault (2016) we found the Other absent. The voice of the Other in this paper is developed through empirical data.

Importantly, we sought to (re)present the complexity of our synthesis in a manner accessible for the widest possible audience by using everyday language, promoting dialogue, and seeking emotional engagement. This is done with the explicit purpose of facilitating a critical yet constructive dialogue with proponents of EiM. Therefore, we have developed an analysis through storytelling to *show*, not just tell, our findings and arguments. We synthesised our studies through duoethongraphic co-reflection and coactivity processes to develop duoethnographic creative nonfiction. Our findings are presented in two stories 'fictional in form yet factual in content' (Smith *et al.* 2016, p.59)[3] exploring tensions and limitations of EiM and social critique (Latour 2004).

Developing this project has not been formulaic, orderly, or straightforward. We have, by necessity and through genuine reflection, engaged in a task of methodological bricolage as outlined by Gibson (2016, p.392-393) to stitch together methodologies *and* studies. Therefore, having established 'epistemological and ontological awareness' (Smith *et al.* 2016, p. 65) rather than present a technical methodological procedure we outline a bricolage of 'tips' (Smith *et al.* 2016, pp.65-68) and 'methods' (Norris and Sawyer 2012, p.25-35) of ethnographic creative nonfiction and duoethnography, respectively, underpinning this project.

- *Finding a topic and partner*: usually little explanation of how researchers come together to conduct (and write) research is provided. In this case, we attended conference presentations each other made of our independent ethnographies (Gibson, 2015; Forthcoming; Williams, 2015; 2017). Afterwards we discussed connections, consistencies, and contradictions between our work *and* our epistemological and ontological frameworks. Importantly this allowed us to identify blindspots in each other's work that our respective studies shed light on, which presented the opportunity for collaboration.
- *Purpose, selectivity, and developing storylines*: Our stories are composites, compressions and impressions of people and places from the field developed to reveal our analyses and enhance

[3] Specific detail regarding the capture of 'factual content' underpinning the ethnographic creative non-fiction presented in this paper can be found in (Gibson, 2015; Forthcoming; Williams, 2015; 2017). For now, we feel comfortable enough asserting that through our independent realist ethnographic efforts (Atkinson, 2012) we are able to 'write an account of the culture that accurately represents its core values, structures, processes and participants' (p.26); albeit a fictional account.

naturalistic generalisability (i.e., indicating that the particularities of our observations do not preclude them from being applicable elsewhere). By weaving together voices and experiences encountered in our fieldwork (cf. Smith 2013, p.201) we developed characters who could engage in dialogue to reveal and explore *their* (counter)narratives. Many of the comments and fragments of conversations used in these stories are 'real'. As are the settings. However, events did not, obviously, occur in the exact context or sequence in which they are presented. Events, sentiments, and phrases have been temporally and spatially displaced but were selected and developed to best represent data analysis.

- *Analysis, theory, literature, and rigor*: Duoethnographic research does not begin with systematically reviewing existing literature, rather literature is 'regarded as another partner in the conversation and provides additional perspectives' (Norris and Sawyer 2012, p.34). We used literature alongside primary data to 'create a more complex picture and show tensions, contradictions, and connections between [our] research' (Smith *et al.* 2016, p.66). In an effort to reflect different 'worlds', our stories use people's actual words and interactions that were documented in fieldnotes and interviews. This is important as limited ideological diversity within duoethnographies leads to reaffirmation, reification, and retelling stories of political advocacy (Breault 2016, p.782-783). To avoid such theory confirmation and in acknowledgement of pushing creative nonfiction beyond presentation of a single ethnography, writing involved an iterative process of: writing to (re)analyse data and represent 'original' findings; inviting feedback to ensure faithful representations; revising stories as arguments developed new synthesised findings dialogical with extant literature; then reviewing and rewriting to ensure faithful representation of new findings.

Finally, our intention for adopting the creative nonfiction approach is to explore the potential to establish and promote interdisciplinary dialogue and practice within EiM and health promotion. The everyday nature of these accounts has been designed to make them accessible, relatable and engaging for exercise scientists, policy makers, PA promoters, and social scientists alike. Thus, through this methodology we seek not only to preach to the converted but to meaningfully reach out to those (e.g., exercise scientists, policy makers) who are often critiqued at a distance by us and others in the sport, exercise and health (sub)disciplines. We believe framing qualitative research in this way makes a fundamental contribution to not only highlighting the shortcomings of EiM but moving towards a more equitable and effective approach.

Findings: Opportunities Lost to (In)Difference

i) The seminar that could have been

The gentle murmur of the crowd, who were fitted somewhat awkwardly around the bulky scientific equipment, died away as the smartly-attired speaker appropriated the centre of the room as a makeshift stage.

Welcome, officially, to our new lab! It is great to see my fellow physiologists, but also so many unfamiliar faces. The work we do here will support the promotion of exercise and activity by ensuring interventions can be based on sound physiological evidence. It's all about being healthy and performing to the best of your capabilities. Helping the unhealthy become healthy. Ensuring elite athletes train in a way that is as effective and healthy as possible. And about people in their everyday lives. The importance of our work is demonstrated through recognition of inactivity as a diseased state and exercise as medicine.

The ethnographer could feel their face flush with frustration at such an assertion. Although, it was probably not as obvious to others as it felt. Nonetheless, it was a powerful feeling.

I suspect that I'm preaching to the converted but I will start by saying that not only is exercise medicine, it is very good medicine indeed. The great thing about exercise is it works for everyone. The not so great thing about exercise is not everyone is doing it and, despite all the evidence, we don't know why. So, today is not just about showing off our new equipment, but also showing you some of the research being conducted by our team. We'll start with why the threat of sudden cardiac death shouldn't put people off exercise, then look at hydration strategies for marathon runners, and last but not least, whether HIIT training is the answer for inactive elderly populations.

It wasn't exactly a conscious decision on the part of the ethnographer to raise their hand. However, almost before they knew it the speaker was addressing them.

Hello. Someone's keen to get a question in early.

With the room turning towards them it was as good an opportunity as any to respond, quite directly, to the physiological arguments. The Ethnographer began:

I'm a social scientist, so…

My commiserations. The speaker responded with a broad smile which was accompanied by a collective guffaw in the room.

Ha, yeah.

The Ethnographer tried to disguise their apathy towards the joke by smiling back.

Sorry if I'm jumping the gun, but will any of the talks today tell us why people don't exercise?

The simplicity of the question belied the wordy style of comment-questions the Speaker expected of social scientists. Nonetheless, they sought clarification.

What do you mean?

Well you just said that we know exercise is good medicine but we don't know why some people don't do it.

Yes.

Surely finding out why needs to be the primary research focus then?

Well our work is helping people to understand just how important exercise is for health and why everyone should be doing it. Many people may know exercise is good for you, but few know it is the single most important thing you can do. It is an easily modifiable behaviour after all. As you'll hear today exercise impacts every single major health condition. It reduces risks of cancer by up to 50% for some types. It massively reduces risk of cardiovascular conditions, and of course diabetes, all of which are major killers.

The humour previously present in the room had gone. It was replaced by looks pressing the Ethnographer to stop holding up proceedings. The Ethnographer was undeterred as it was clear to them that the argument presented by the Speaker actually reinforced their own position.

I understand…

The Speaker's expression indicated they thought evidence resolved the matter. They looked towards the first presenter, however, the Ethnographer pressed on:

…but how will that tell us why people don't exercise?

The Speaker's gaze returned to the Ethnographer.

That is the million-dollar question; literally at least a million-dollars in research council funding. What we're doing, and what we'll show you today once we get underway - the Speaker stressed that in a thinly disguised barb at the Ethnographer - *is mounting evidence which can be used to inform all of us how to live better, happier, more exciting lives and perform at a higher level in no matter what we are trying to do.*

The Ethnographer felt that some in the room (and not just their two colleagues who had been sufficiently bothered to wander to the opposite end of the building) shared their sentiment that the Speaker's answer sounded like a sportswear advert, not expert commentary from a scientist.

So you think more information will convince inactive people to do more exercise?

Well, study after study after study from Morris' work on bus drivers and conductors to the Harvard Alumni study have always shown the same thing: that exercise reduces the risk of coronary heart disease. The more you do and the fitter you are the better off you will be. These studies are why we now treat inactivity as a major risk factor and why physical activity is considered to be the best buy in public health.

Sure, I get that but do you really believe inactivity stems from a lack of evidence about the health effects of exercise? The Ethnographer filled the silence with a different question. *I suppose what I am asking is how does all this differ from Morris' work?*

In what way do you mean?

Well, understanding the difference in activity levels in Morris' study is quite simple. It was determined by the demands of the job…

The Speaker began to respond*: Yes of course, but…*

The Ethnographer didn't entertain the interjection *…surely what we should take from Morris isn't just exercise is good for you, but identifying opportunities for increasing activity levels of people in low-paid and largely sedentary jobs.*

Of course! The Speaker's response indicated common ground had been found. *It is not just the low-paid, though. The irony is my job is largely sedentary. My colleagues and my students have had to put in long, long hours in the lab. Not only are we inactive for long periods because we're sitting in front of our computers. We also end up with limited sleep and working under considerable pressure. Drinking too much coffee and eating too little real food. Like I say, the irony is doing exercise physiology can often be quite unhealthy. Our research provides physiological rationale for how we can eat better, sleep better, and move better. For instance, if more people walked to work then we'd have a happier, more successful workforce and, with regards to Morris' research, we wouldn't need so many bus drivers! It's about facilitating small changes. I have just requested a standing desk.*

It was the Ethnographers turn to respond with a smile: *I'm not sure a standing desk would have worked for the bus drivers in Morris' study.* The joke was better than the reaction it received.

Well of course not. There are other options. The Speaker responded brusquely*. Pointing out problems is easy. How about providing solutions? I'd suggest that's more helpful than just criticising the efforts of others.*

That's fair enough. The Ethnographer earnestly agreed. They too hated the propensity for 'problematising' everything. *I agree we are in need of better solutions, but I'm not meaning to dispute the physical effects of exercise. I do dispute higher V02Max scores make you happier. I don't think your evidence will show that. And while we are quick to champion the positive impacts, we have stopped talking about opportunity-costs in relation to injuries or accidents, for example. The solutions you advocate have not grasped the problem, though. Society is not aggregated individuals. Extrapolating physiological effects of inactivity to societal level reinforces the individualisation of social issues.*

The Ethnographer felt articulate. The Speaker, however, pounced on their phraseology. Beginning with a sigh exaggerated for dramatic effect:

I could have guessed that you would want to talk about negatives, and some sort of 'isation'. You lot always do.

Yes, we do always highlight the importance of social processes. Just like you highlight physiological ones. Failure to appreciate that means you identify the central issue as people not exercising despite the evidence and so respond by arguing that we need to create even more evidence to tell people they should exercise. I'm saying we need to think about this beyond redoubling evidence.

Well if this research isn't helpful then why does it keep getting funded? Why is it published in high-impact journals? Why are there more exercise physiologists, both faculty and graduate students, than any other discipline in this Faculty? Why is our work present in the training of physicians, physiotherapists, occupational therapists, and nurses? The Speaker paused. They began to address the room rather than the Ethnographer. *We really need to get a move on. So we're going to be talking about the research we have done. Research that aims to help people exercise more and maximise their performance potential. We think this is helpful and supports efforts to tackle inactivity.* The Speaker then turned back to the Ethnographer to close the matter.

I don't disagree with what you're saying about the limits of one discipline, but we are all under pressure to do work that appeals to funders. If you, or anyone else here today, have ideas for potential interdisciplinary collaboration that will help answer why people don't exercise and how we can help them to then I'm all ears. Funders love interdisciplinary proposals at the moment.

The joke was poorly received.

However, for now how about you sit tight and let us show you what we have done.

ii) Sailing Lifestyle Upstream

As they took their seats in the central concourse of Granton Leisure Centre, the Sociologist thanked the senior councillor for the opportunity to feedback his research findings.

No problem, it's lucky your name came up in passing recently. I'd completely forgotten that you were doing a project about this place. How long ago now was it since you interviewed me?

He replied apologetically that it had been about two years ago whilst reflecting to himself that perhaps his strategy of waiting for his findings to be published before contacting the council had been a mistake. He hadn't anticipated it would take so long.

When I tried to find your e-mail address online I saw that some of your social media posts were really negative about physical activity interventions. What should I read into that? Weren't you impressed with what we did in Granton?

Wondering if he had been brought in for a telling off or as an exercise in damage limitation the Sociologist made an effort to reply confidently but without appearing confrontational.

Yes, well, I suppose my initial criticism stems from physical activity promotion being prioritised in an area like Granton which is of course one of the most deprived areas in the country.

Not acting with the same tact the councillor was quick to reply.

I'm surprised that someone doing research doesn't think increasing physical activity in a deprived neighbourhood is a good idea. Granton has some of the lowest levels of health in the city. Getting this community active will help improve that, the scientific evidence is very clear.

The reply was predictable enough given that this man's job was to oversee the city's sport and leisure facilities. Rarely would promoting physical activity not be his priority.

It was approaching four o'clock. Young club swimmers boisterously streamed past the two men and into the changing rooms. Not wanting the meeting to get fractious early on the Sociologist responded calmly despite the youthful commotion.

Obviously the leisure centre was built about a decade ago as part of a wider programme of regeneration to reduce national health inequalities. Now, I spent a lot of time with people whose lives genuinely have changed for the better as a result of this place being built but, in your opinion, has it been successful at a neighbourhood level? He asked having already analysed data strongly indicating that it hadn't. This question seemed to move the councillor into politician mode.

I don't know, has it been successful in yours?

The Sociologist persisted: *I'm interested in your opinion*. The councillor sat back in his chair and took some time to contemplate.

I think if you liken it to a trip to London I would say we're in Bath. There's a way to go but there are some really good things that have come out of it. In terms of income it's a fine balance in Granton because we couldn't sustain the facility if we focused all of our attention and resources on local residents. Would I like us to do more, yes of course I would. How would I get more? Only by spending

money on people to drag them in and that's money we don't have. So, I would say we're in Bath with another 80 miles to go.

The Sociologist reflected to himself that the metaphor was more apt than the councillor realised. Granton was in the Midlands. If they were aiming for London and ended up in the West Country they had clearly drifted off course. It seemed like an opportune moment to discuss the notion of lifestyle drift. He didn't want to use academic terms like this because they usually required explanation. He wanted to avoid the power play of positioning himself as the expert in the room. This was mainly because he wanted to facilitate constructive dialogue but also because he knew playing that role leaves researchers vulnerable to accusations of being book smart but removed from the real world. As an ethnographer he found that accusation particularly irksome.

Sure I can see that but will you ever get to London? The regeneration funding was only ever for a fixed-term and without it the effort to support local people to be physically active seems to have lost all momentum. My research suggests that it may now be going backwards. Here's a perfect example. He gestured to a glass-panelled wall that framed a busy scene of infants at play. *In order to remove the childcare barrier that used to be a crèche that offered a subsidised drop-off service to local parents. Now it's a privately run nursery.*

This line of inquiry seemed to annoy the councillor. He answered forthrightly but indirectly.

Look, we asked local people if they wanted a leisure centre and although there was a vocal minority who opposed it our consultation showed that overwhelmingly people wanted it. After the boxing hall was burnt down people didn't really have anywhere to go to exercise. Now they've got the leisure centre.

The councillor had unwittingly gone in the direction the Sociologist had hoped.

Yes, improving social amenities in areas like Granton is of course both necessary and useful but after all the cuts is the leisure centre accessible to local people?

The reply was curt.

Look, Granton used to be a place where you didn't take your car but now we have a car park full of them. It's here for people if they want it. Hopefully they can afford it and if they can't there is still free stuff going on which they can afford.

This abdication of responsibility annoyed the Sociologist.

D*oesn't a full car park indicate that it is actually being used mostly by people driving in from the more affluent surrounding areas?* His data had shown this was the case. *When this happens researchers tend to say that an intervention is liable to reproduce the inequality paradox. What I mean by that is…*

Before he could finish: Y*ou know that can often be your problem.*

The researcher fell into the trap and paid the price he predicted.

Academics are prone to over-complicate things and then can't see the wood for the trees. There was an article in the paper a few years back now that quoted someone who lived on the estate saying 'our leisure centre is the best thing that's happened here'. That quote shows me that to some extent we have succeeded in making people believe that this place is for them and they're glad it's here.

This media-generated 'evidence' being cited caused the researcher to clench their jaw in frustration as the councillor continued.

We've bought obese single Mums swimming costumes and got them in that pool…

Before he could bulldoze on with exceptional cases that make good PR stories the Sociologist saw an opportunity to interject.

Yes, but you don't do that anymore. What about the next generation of parents and what about those same Mums? Now they've got a local swimming pool and a costume. However, they've still got kids too but there's no longer temporary childcare provision. You showed them a possible route to better health and then blocked it off.

Pointing through another glass-panelled wall that ran parallel to the former-crèche the councillor attempted to illustrate that the glass was half-full.

Well on the other side we still invest a lot of money in our swimming programme. Look how many fit and healthy young people we have in there. Let me tell you, with childhood obesity on the rise that's not easy. We've produced a few top level performers. Hopefully one day we'll get a Rebecca Adlington type character. That would be great for Granton.

The scene was telling. Five of the eight lanes had been transformed into conveyor belts producing race-ready swimmers. The other three lanes were for the public who could bring themselves to brave the consequent currents and peak-time claustrophobia. This scene was repeated six days a week at AM and PM peak times.

What would you say to the people I spoke to who said that hosting the swim clubs gets in the way of helping less active people to become more active?

Having those teams in there was non-negotiable. They have to go somewhere.

The councillor then reverted back to the need to generate income.

Anyway, if the clubs being there meant that I lost a lot of members then I would have to think long and hard about it because I can't make decisions that are going to cost me lots of monthly fees. It's unfortunate to admit it but we need to take a leaf out of McDonalds' book because they market for children and as a consequence get families.

It annoyed the Sociologist that better marketing was being put forward as the solution but they let the councillor finish.

We need to encourage and engage families to participate more, to make time. That's the critical thing in the world we live in at the moment: time. If only we could bottle time and give it to people.

Again the impact of social inequality was left in the shadow of individual factors that were positioned outside of local authority control. The councillor seemed very limited in his capacity to make a difference so the Sociologist inquired: *Isn't finding that time largely out of your control and actually about addressing social inequalities?*

I wouldn't disagree. If you want to exercise your brain you can go to a museum or a library, no one charges you. If you want to exercise your body we all charge. Is that right? Probably not especially in this day and age with the obesity crisis, diabetes, the health issues costing the nation millions and billions of pounds. Could it be done differently? Yeah it could. Would it cost more money? Yeah, of

course it would. And that's the issue. However, you're right, that is out of my control. He punctuated his last sentence with laughter.

He later concluded: *We've left a legacy in bricks and mortar and it's on the doorstep of local residents. I'll be quite frank about it, I think that's a good thing.*

They both left further convinced that they were in the right and aware that although alternatives were possible they were also unlikely.

The Next Chapter: Critical Collaboration

The most well-known elixir, water from the mythical fountain of youth, was believed to offer drinkers eternal youth and good health. Although to a lesser degree (MacAuley *et al.* 2016), we do not dispute that the effects of exercise could be framed in this way. However, just as the fountain of youth was never found, our critique reveals that social inequalities and inequitable interventions means vast numbers of people cannot find a way to meet recommended levels of PA. Previously, pointing out this inconvenient relationship has done little to instigate change (Baum and Fisher, 2014). Consequently, our goal has been to *show* – by adopting an accessible and engaging methodology – the need for an alternative approach that prioritises equity. In so doing we hope evidence for fairer *and* more effective approaches can instigate interdisciplinarity motivated by ethically-informed pragmatism. To achieve this we need a new type of *movement* intellectual.

Through our creative non-fiction stories we attempted to illustrate the unsatisfactory impasse facing research and policy principally concerned with sport, exercise and health. There were no heroes in our stories but missed opportunities aplenty. The esoteric enclaves constituting academia and politics are well-documented. However, often it is the different ways in which we express and explain the same issues, rather than our intentions, that divide us. We wanted to utilise a methodology that emphasised the shared intentions of both proponents and opponents of EiM: improving health and wellbeing.

Our stories show qualitative researchers can and do sometimes come across as being problem rich but solution poor. That said, we also wanted to show solutions proposed by exercise scientists and policy makers are often ignorant or wilfully neglectful of social inequalities and inequitable intervention. Qualitative researchers should be unapologetic for the centrality of social contexts and social justice agendas to our praxis (Denzin and Lincoln, 2008). However, it is ineffective and unwise to let this numb the constructive part of our criticism. Our aim was to illustrate that good intentions and real-politick responses to economic realities and imperatives do not logically lead to positively addressing inactivity. In part, then, our aim was to highlight the illogical nature of turning down opportunities for more constructive collaboration. We argued that exercise is to some extent epiphenomenal and so health policies should prioritise reducing social inequalities and avoid the trend

to drift towards lifestyle. However, we theorised exercise as a therapy of freedom which has an inverse relationship with socioeconomic status. In other words, exercise represents culturally and physiologically meaningful ways of 'doing' health and avoiding moral scorn. However, it is less accessible to people of lower-SES. For this reason we propose greater interdisciplinarity to align two movements: EiM and Behavioural Justice.

The Behavioural Justice Movement advocates motivating action without blaming the victim. Proponents reason that for as long as health is promoted as an individual moral responsibility ensuring *everybody* has the opportunity to live a 'healthy lifestyle' is a matter of social justice (Adler and Stewart, 2009). This is because otherwise everyone faces the same moral scrutiny but some (e.g., higher SES) have greater capacity to act than others (e.g. lower SES) – which leads to victim blaming. Achieving this ambitious aim requires promoting individual behaviour change through social intervention in order to provide equitable access to exercise (e.g., addressing disparities associated with economics, gender, geography, etc.). Being guided by the Behavioural Justice agenda potentially provides border crossing imperatives. It may assuage some anxieties of social scientists wary of undermining the need to address social inequality by facilitating lifestyle drift. It would also appeal to EiM proponents because it targets the least active/highest risk-groups.

The potential for exercise to be a poisoned elixir exacerbating inequalities need never be realised. Being *against* (medicalised and individualised) exercise and appreciating the potential for it to become a poisoned elixir (rather than medicine) shifts priorities and opens up new possibilities. The solution is simple, but not easy: reducing inactivity *and* inequality. Refusing inequitable intervention enables the promotion of exercise to meaningfully influence the lives and health of marginalised and excluded people and reduce related inequalities. Targeted intervention precludes reproducing the inequality paradox. However, achieving this goal requires meaningful collaboration between quantitative and qualitative researchers to attract funds and create evidence that would facilitate lobbying for more equitable health policies. This interdisciplinarity would forge a path for all involved to genuinely transformative and positive research impact. Throughout our duoethnographic dialogue we kept returning to the need for exercise scientists and social scientists to work together to reorientate the focus of PA promotion from individual to equitable intervention. We hope our arguments and stories facilitate this aim.

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