Contemporary British History

ISSN: 1361-9462 (Print) 1743-7997 (Online) Journal homepage: http://www.tandfonline.com/loi/fcbh20

Captain Capon's Cure—Food, Fitness and the British Army's Physical Development Depots, 1936–1939

Paul Davenport

To cite this article: Paul Davenport (2014) Captain Capon's Cure—Food, Fitness and the British Army's Physical Development Depots, 1936–1939, Contemporary British History, 28:3, 253-273, DOI: 10.1080/13619462.2014.930347

To link to this article: http://dx.doi.org/10.1080/13619462.2014.930347

Contemporary British History, 2014
Vol. 28, No. 3, 253–273, http://dx.doi.org/10.1080/13619462.2014.930347

Routledge
Taylor & Francis Group

Captain Capon's Cure—Food, Fitness and the British Army's Physical Development Depots, 1936–1939

Paul Davenport

In the late 1930s, the British Army faced a manpower crisis that threatened imperial defence. This predicament was made worse by the rejection on medical grounds of a worryingly high number of potential recruits. To try and reverse this tendency, an experiment in feeding and physical exercise was instigated, supervised by Captain PJL Capon of the Royal Army Medical Corps. This article investigates a largely ignored part of the social history of the British Army. Captain Capon's 'cure' is examined in the context of scholarly interest in the body, fitness and health with particular reference to anxieties centred on notions of national degeneration.

Keywords: British Army; Recruiting; National Degeneration; Nutrition; Physical Fitness

Established under the aegis of the National Government and endorsed by King George VI, the National Fitness campaign of the late 1930s stressed the necessity of improving the physical standard and health of the people, to promote 'national vigour and imperial power'.[1] At the same time, an increasingly fragile peace and greater demands prompted by changes to defence policy coincided with a recruitment crisis for the British Army. The shortfall in manpower was worsened by the number of potential recruits who were found to be below the minimum physical standard. A number of measures were tried in order to rectify the situation. One such approach was the setting up of experimental Physical Development Depots. Men who would ordinarily have been rejected by the British Army instead attended courses devised to remedy their physical deficiencies.

There is considerable scholarly interest in health, fitness and the body, with anxieties about national 'degeneration' and 'enfeeblement' being subject to particular scrutiny.[2]

Paul Davenport is an independent researcher. His principal research interest is in the social and cultural history of the British armed forces. He has also written on the subject of non-white seafarers in the Merchant Navy. Email: pdzxc54@yahoo.com

By locating the use of special Physical Development Depots within the study of concerns about nutrition, health and 'national fitness', the present article will explore a previously neglected area of the social history of the British Army. From an initial experimental programme, based at Aldershot, the Army focused on 'prehabilitation' through a combination of enhanced diet and graduated exercise, designed to enable substandard recruits to pass through a probationary period prior to regular training. As part of a strategy intended to improve the recruitment and retention of manpower, the pre-service training regime formed a particular strand of a broader concern with troop welfare intended to make the Army more attractive as an employer. The aim was to 'build bodies', not to satisfy an aesthetic concern, but rather to attempt a solution to one aspect of its inter-war recruitment difficulties. Unlike many advocates of 'physical culture' in civilian society, the Army's instructors had no commercial imperative to satisfy. As a consequence, the Army could focus on using graduated exercise and enhanced diet to take 'substandard' men through a course of pre-service preparation that would enable them to go on to regular training.

The British Army between the Wars: Defence Policy, Reorganisation and Recruiting

The influences on and effect of British defence policy in the inter-war period has been much debated. Essentially, however, there was an initial reduction in defence spending in the period after the First World War. This was followed by a process of gradual doctrinal change involving the development of new technology and the eventual relaxation of financial strictures after a review carried out in 1934 by the Defence Requirements Sub-Committee on behalf of the Committee of Imperial Defence.[3]

Despite the limitations imposed on it, the General Staff implemented several major changes throughout the 1920s, using a combined-arms approach based on the deployment of new technologies.[4] Combined-arms and fire and movement tactics had originally been used on the Western Front in the later stages of the First World War.[5] After the war, these principles were reflected in the various versions of *Field Service Regulations*.[6] The general intention was to apply fire and movement tactics on the battlefield, using a heavily mechanised professional Army.[7] An endorsement of this strategic and tactical approach came in the early 1930s with the setting up of the Committee on the Lessons of the Great War.[8] Practical testing of the doctrine was, however, hindered by restrictions on equipment purchasing that, together with a lack of manoeuvre training also served to hamper progress.[9]

The Defence Requirements Sub-Committee was appointed by the Cabinet in November 1933. The conclusions it reached would shape the thrust of British strategic defence policy until 1939.[10] Broadly speaking, the Sub-Committee proposed a scale of defence priorities, headed by a commitment to the defence of Britain's Far East possessions. Obligations to European commitments came second, followed by the defence of India against incursion by the Soviet Union.[11] The Sub-Committee's brief was, however, complicated by competing interests and differences of opinion between

the Treasury, the Foreign Office and the Armed Services.[12] The insistence that the threat from Japan to Britain's Far Eastern possessions could be mitigated by pursuing a policy of rapprochement further complicated matters.[13] When the Sub-Committee produced its Report, the effect of the wrangling between different departments was revealed in a reordering of defence priorities.[14] The need to prepare for a European conflict was now seen as paramount, with the Report stating that 'we take Germany as the ultimate potential enemy'.[15] The Report also gave particular emphasis to a major practical deficiency, the inability to put an effective expeditionary force into the field. To do so would take at least five years' preparation.[16] The force itself would need to be comprised of eight divisions, and would need to coincide with a major reorganisation of home defences. Crucially, these reforms were contingent on increasing the peacetime complement of the Regular Army and active Reserve.[17]

However, when the Secretary of State for War reported in April 1936, he was forced to admit that there was a serious shortfall in recruits to the Army, whose numbers were already 10,000 lower than the usual peacetime establishment. A number of causes were suggested. Amongst these was an emotional anti-military response to the losses sustained in the First World War.[18] Indeed, the *Journal of the Royal United Services Institution* joined in pondering the effect of 'pacifist propaganda' and 'war scaremongering' in the press as causes of poor recruitment levels.[19] Other causes were largely based on perceptions in civil society of poor rates of pay, irksome and pointless discipline and out-of-date barrack accommodation.[20] These views persisted despite the efforts of the Army's Director of Recruitment to list the extensive range of benefits—mfree medical and dental treatment, a free issue of clothing, free food and a month's paid annual leave—which a soldier might expect.[21]

Imperial commitments also meant that a soldier could expect to serve in India for a period of six years, without the prospect of leave in the UK. If the lure of foreign travel appealed to some, it was a strong disincentive to others. The possibility of being unable to secure employment after discharge from the Army also deterred potential recruits, as did reports of poor morale and requests for discharge from the Colours on compassionate grounds.[22] There was also an increase in the number of desertions recorded. As the Secretary of State for War commented, 'This is a sure sign of dissatisfaction with the conditions of military service'.[23]

As a first step towards remedying the current situation, a film and newspaper campaign was suggested, designed to 'break down the barrier … between military institutions and civil life' by publicising the activities of the modern Army.[24] Political and religious opinion-formers would also be exhorted to lend their support.[25] Some measures had already been taken, by improving soldiers' accommodation. A programme of barrack construction had received favourable notices in the annual Report on the Health of the Army published in 1935. Amongst the innovations noted was the provision of hot water for baths and ablutions.[26] Army Estimates in subsequent years continued to report on these initiatives, emphasising the progress made in building new barrack accommodation, complete with central heating and 'artificial lighting'.[27] The effect on recruiting was minimal as, by October 1936, Cabinet

reports drew attention to the Army's lack of ability to discharge its Imperial responsibilities should current trends in recruitment continue.[28] The pessimistic tone of the report extended to projections of the recruitment deficit for subsequent years. A shortfall of 20,300 was predicted by 1938 rising to 31,000 by 1940 if recruitment rates were maintained at current levels.[29] At that juncture, the report warned, the military system risked breaking down.[30] Indeed, between 1937 and 1939, the shortfall in recruitment consistently hovered around 10 per cent of the Army's total complement.[31] The outlook was sufficiently bleak for the report to concede that the 'figures reveal a situation which it would not be an exaggeration to describe as appalling'.[32]

The suggested cause of the recruitment deficit was assumed to be the lack of 'attractiveness' of Army service, accompanied by the admission that the Army did not offer 'a safe or satisfactory career'.[33] These were not new concerns. In fact, they had been raised for many years. For example, the poor prospects for discharged soldiers in the civilian job market as a result of lack of trade skills had been debated extensively in November 1908.[34] In March 1909, public perceptions of Army life, centring on drunkenness, outmoded accommodation and poor educational attainment, had formed the basis of fresh Parliamentary discussions.[35]

Once again, in the absence of compulsory service, persuasion was the only means available to the Army to increase the number of recruits. The Cabinet report attempted to show the effort expended in that direction, by detailing the measures that had been taken to make the Army appear a more tempting prospect for employment. The film and press publicity campaign was cited, with its focus on showing improvements to Army accommodation, as were projects designed to appeal to the general public like regimental 'At Home' displays to encourage local recruiting.[36] Increasing funding for Army Vocational Centres, offering employment training for discharged soldiers was also mooted.[37] However, the suggestion that pay be improved was rejected. Instead, reductions in 'stoppages' from a soldier's pay for certain items of kit, the addition of supper to the number of daily meals served and the substitution of margarine with butter were thought to be better proposals.[38] The October 1936 Cabinet report was significant as it also referred to an experimental scheme intended to remedy the problem of physically substandard recruits. Although a general reduction in the physical standard required of recruits was dismissed as 'undesirable', the experiment—based at Aldershot—used additional feeding and exercise to improve the physical standard of men who would ordinarily have been rejected as unfit.[39] Supervised by the RAMC, the principles adopted at Aldershot would go on to form the basis of the regime at the first Recruits' Physical Development Depot (RPDD) at Canterbury.

The Health of the Nation: Recruit Rejections and 'Degeneration Anxiety'

Reporting in 1934, the Committee on Scientific Research laid out the percentages of recruit rejections annually between 1923 and 1932. In the first case, 55.5 per cent of potential recruits had been turned down, compared with 52.1 per cent in 1932.

This apparent improvement was, however, revealed as somewhat illusory. Additional data on recruits who were subsequently rejected on medical grounds after passing the initial screening showed an increase from 34.8 per cent in 1923 to 36.9 per cent in 1932.[40] Notably, the ailments recorded as reasons for rejection in Army recruiting returns were those that the Committee attributed to, or believed were worsened by inadequate diet.[41] While admitting that the numbers of rejected recruits could only offer a limited indication of general health standards, the Committee on Scientific Research believed that the figures were worthy of further investigation. Notably, their report suggested that any further study ought to be undertaken within the Committee's broader remit, that of the 'need for improving the general standard of nutrition of the people of this country'.[42] When the Army set up its Recruit Physical Development scheme, it was, in part, acknowledging these broader concerns, connecting the shortfall in recruitment with anxieties about the physical condition and state of health of the nation.

Newspaper articles had already presented a troubling picture. Prompted by interest in the general physical and medical standard of the population, the *Manchester Guardian* of 12 December 1933 had also noted the Financial Secretary to the War Office's admission that more than 52 per cent of potential Army recruits had been rejected on health or physical grounds.[43] These basic physical requirements were scarcely exceptional. The minimum height, weight and chest measurements demanded of a prospective infantryman were, respectively, 5 feet 4 inches, 115 pounds and 33 $\frac{1}{2}$ inches.[44] Apart from deficiencies in these categories, rejections on purely health grounds in the recruiting period between 1933 and 1934 were recorded as being a consequence of disease of the middle ear, dental decay and heart defects.[45]

In fact, the level of recruit rejections had long been associated with and used as an indicator of wider concerns, dating from at least the time of the Boer War, when the rejection of large numbers of applicants to the Army became enmeshed with concerns about national 'efficiency'. These were allied to pessimistic assessments of 'racial degeneration' influenced by the 'new science' of eugenics that had emerged in the 1880s. 'Life reformers'—champions of novel regimes like vegetarianism and the exposure of the body to sunshine and pure air—formed a 'loose alliance' with legislators and physical culture enthusiasts to advocate a variety of curative measures including physical exercise and dietary change.[46] This did not, however, prevent a generalised sense of unease about the degenerative effects of modern society finding a focus in reports received from recruit medical examinations.[47] Indeed, an inter-departmental committee was formed in September 1903 to investigate and report on the presumed deficiencies of the population.[48] The committee's report appeared in 1904 and concluded that there were insufficient grounds to support the view that 'progressive deterioration is to be found among the people generally'.[49] While the committee found no evidence to support the claims of national weakness, the fact that a report had been commissioned was, nonetheless, an indication of the primacy of degeneration anxiety in political debate.[50]

Similar concerns would resurface at the time of the First World War. After the introduction of the Military Service Act of 1916, recruit medical inspections used

'lettered categories'—A1, C3 and so on—to denote fitness.[51] Reports from medical board examinations of potential recruits presented a disturbing picture of the poor standards of health encountered. Again, there were doubts about the reliability of these reports as a way to judge the health of the general population, yet such concerns about the quality of evidence did little to alleviate underlying anxieties.[52] In a familiar reaction, these anxieties centred on allegations of national 'degeneration', particularly amongst the urban working class. The presumed physical inadequacy of the male population became the locus for fears of dire consequences for Britain and the Empire.[53] At a time when, it has been suggested, imperial ambitions were strongly allied to notions of 'a more muscular, militaristic masculinity' able to defend the nation and the empire, these anxieties were of particular concern.[54]

Underlying anxieties of national enfeeblement aside, the Edwardian era had seen a response in the form of a popular 'physical culture' movement. Physical culture held a broad appeal, counting working men amongst its devotees. In this regard, it differed from 'muscular Christian' athletic sport, which was primarily reserved for upper class or University men.[55] Athletic sport privileged a type of masculinity based on physical capability and courage, expressed through competition. In contrast, promoters of physical culture emphasised the remedial effect of individual physical training, ostensibly focusing on the cultivation of the self as opposed to competitiveness.[56]

In practice, however, although promoting good health was not forgotten as an aim of physical exercise, it coexisted with other aims. A particular bodily aesthetic characterised the pursuit of 'physical culture' from its inception. The idea of 'fine-tuning' or 'building' the body was at least as powerful a notion amongst devotees of physical culture as was the maintenance of good health. Success in strengthening the body and creating a manly kind of beauty was judged according to a measure offered by the ideal associated with classical sculpture. As the work of ancient Greek sculptors was rediscovered and gained in popularity, a standard was set for the 'body beautiful'. The Roman marble copy of the classical Greek bronze *Apollo of the Belvedere* displayed a physique of a kind that was particularly prized, representing a standard that could only be obtained through rigorous training.

This quest for 'perfect development' continued to inspire physical culturists through the nineteenth century and into the twentieth century. Eugen Sandow, a leading pioneer of physical culture, produced a guide to exercise in 1894. The book, *On Physical Training*, was subtitled ' a study in the Perfect Type of the Human Form'.[57] Photographs of Sandow, the 'strongman poseur', demonstrating his course of exercises further underscored the relevance of bodily aesthetics to the pursuit of physical culture, providing a template to be emulated.[58] In addition, Sandow set up a prize contest in 1901 to find the 'most perfectly developed men' in the British Isles, offering a thousand guineas to the winner.[59] Following a similar course, the League of Health and Strength, formed in 1906, was prominent in promoting admiration of the 'physique beautiful' amongst its members. An element of competition can also be discerned in the League, as members were encouraged to seek the approval of their peers to validate their efforts.[60]

Evidence of the preoccupation with aesthetics can also be found in the various popular manuals directed towards budding physical culturists. For example, *Modern Physical Culture* published in 1905 suggests that 'every new votary of the Physical Cult craves for immediate visible development' and aims to 'cultivate the body beautiful, the body strong and the body healthy'.[61] In addition, advertisements for *Health and Strength* magazine contained notices offering a 'Series of Useful Sixpenny Handbooks'. Along with Staff Sergeant Moss' course of 'Simple Indian Club Exercises' were the 'Uncle Bob' pamphlets. These were largely focused on aesthetics, with titles promising 'How to Develop the Arm', 'How to Get a Good Chest' and 'How to Reduce Fat'.[62] This imperative became plainer after the First World War, as the physical culture movement increasingly emphasised aesthetic concerns.

That aesthetics continued to have a central role in physical culture can be seen in the work of JP Mueller. Originally from Denmark, Mueller's physical training courses gained an international following, and were reissued into the 1930s. Mueller's book, *My System*, had an example of classical Greek sculpture on its cover, the *Apoxyomenes* by Lyssipos. Mueller suggested that there was universal admiration for the Greeks, 'who were able to produce human forms fit to serve as models for such sculpture'. Mueller's choice of imagery reinforced the idea of physical culturists striving to emulate a classical bodily aesthetic. Mueller evidently believed that this point needed to be emphasised, advising his readers that they 'will not only attain perfect health, but the shape and appearance of (the) body will approach ... the ancient classical ideal of beauty'.[63]

Less concerned with evoking the example of the ancient Greeks, but, nonetheless, concerned with the aesthetic appeal of physical culture, *Health and Strength* magazine offered a number of popular training courses throughout the 1930s. One was promoted by the Yorkshire strongman 'The Mighty Young Apollon' (JC Tolson), promising trainees 'bulging bands of spring steel muscles ... which will command admiration and respect'. As with the 'Uncle Bob' pamphlets, Apollon listed the impressive effects that could be anticipated from following the course, chief amongst which was 'How to get giant muscles'.[64]

This conflation of physical training and 'the body beautiful' in the national imagination was indicated in popular notions of fitness associated with the government's National Fitness Campaign. Aesthetic concerns surfaced in newspaper reports devoted to the campaign. One article describing a gymnastic display by trainees from one physical culture school referred to the men's appearance, declaring them suitable models to 'have posed for Phidias'.[65] Another example can be found in the unlikely figure of George Formby, the highly successful entertainer. Formby appeared in a film entitled *Keep Fit* in 1937.[66] As was usual in his films, Formby performed several songs, including 'Biceps, muscle and brawn'. The lyrics of this song refer to physical attractiveness, competitiveness in bodybuilding and the winning of prizes, not least of which is the affection of his 'girl'.

Nevertheless, 'degeneration anxiety' occupied a central role in the National Fitness process, focusing on how the nation measured up to Italy and Germany. The fitness

campaign was directed towards the adult population, but built on previous initiatives directed at school children.[67] Neville Chamberlain, in his role as Chairman of the Cabinet Committee on Physical Training, had presented a draft White Paper on 22 January 1937. Its intention was to outline the various proposals to improve physical training and recreation provision. At the outset, the White Paper stressed that there would be no compulsory element to any training offered, as this would 'tend to create a false impression of the ideal to be aimed at'.[68] Throughout, the involvement of voluntary bodies was acknowledged.[69] It was stipulated, however, that the proposals would also involve the setting up of an interlinked network of National Advisory Councils, Grants Committees and Local Committees in order to co-ordinate provision for training at local authority level.[70]

Against the background of an increasingly troubling international situation, the intention was to encourage, through voluntary participation, 'a wider realisation that physical fitness had a vital part to play in promoting a healthy mind and human happiness'.[71] Under the National Fitness Campaign individual physical training was promoted as contributing to 'national vigour' and, concomitantly, a readiness to defend the empire. The National Fitness Campaign was, it was stated, based on a simple premise—the improvement of the physical condition of the people.

From the outset, the promoters of the National Fitness Campaign were concerned to distinguish it from similar initiatives in Italy and Germany. In an effort to demonstrate the distinctive nature of the National Fitness Campaign, its guiding principles were attributed to an understanding of the peculiarities of the national character. As a consequence, when the Physical Training and Recreation Bill was first introduced into Parliament, it was prefaced by the claim that 'compulsion or uniformity would be entirely alien to the national traditions'.[72] The idea of introducing some element of compulsion was a familiar topic in a variety of Parliamentary discussions about the health of the nation. The methods adopted by Italy and Germany became the subject of lively debate, with some members appearing to favour the use of a similar approach in Britain. Indeed, when the subject had been aired prior to the announcement of the National Fitness programme, a number of members went further than merely advocating compulsory physical training and broached the idea of a 'labour corps' in the German style.[73]

The architects of national fitness in Britain were especially keen to point out that in Italy, improvements in fitness were developed on military lines, while in Germany training for young men in particular was intended as preparation for military service.[74] Commentators highlighted the fundamental difference between the British vision of national fitness and that of the 'totalitarian states'.[75] In both Italy and Germany, athletic training had been transformed into a 'national duty', under strict central administrative and financial control.[76] Any attempt to impose a similar fitness regime in Britain would, it was argued, lead to 'resentment and destruction of spontaneous interest'.[77] In Britain, instead of promoting militarism, improved physical fitness would help develop individual character, while any implication of

'regimentation' was countered by stressing the lack of 'automaton-like' rigidity in fitness displays.[78]

The National Fitness Campaign was characterised by an emphasis on voluntarism and individual effort, bringing together elements seen in the endeavours of post-Boer War physical culturists and those who sought to 'build an A1 nation' after the ravages of the First World War.[79] The Campaign's championing of exercise as the primary means to good health did, however, circumvent other debates, notably, anxieties about 'malnourishment' and poverty. The Committee on Scientific Research had reported previously on 'the need for improved nutrition of the people of Great Britain'. Reviewing the general health of the population, it was conceded at the outset that it was 'unsatisfactory' and this could be attributed to preventable causes. The committee concluded that the issue of 'defective diet' was central to an understanding of the problem. According to the committee, the diet of the average Briton was typified by a lack of 'protective foods'—milk, cheese, eggs and green vegetables.[80]

Other agencies were also engaged in reviewing nutritional standards. The League of Nations produced its own report, giving the results of investigations carried out in a number of countries. Concerning the incidence of 'deficiency diseases', it reiterated the belief in the consumption of 'protective foods', as opposed to merely increasing calorific intake, stating that dairy products, particularly milk, were the most important.[81] The report went on to assert that, 'fine physique, good health and virility are usually seen ... where milk has an important place in the diet'.[82] Some assertions made in the League's reports were of a more controversial kind, especially findings which related poor diet and increased risk of disease to low income.[83] Evidence gathered by other researchers had also made the case for the existence of a link between poverty and malnutrition, with two books published in 1936—*Food, Health and Income* and *Poverty and Public Health*—attracting particular attention.[84]

The Committee on Scientific Research had already hinted at a connection between income, diet and health, suggesting that a range of ailments were 'much commoner among the poor'. The Committee drew particular attention to under-development in height, which it attributed to nutritional deficiencies. In addition, the notion of a 'poverty line' was gaining in currency, in part derived from the British Medical Association's 'minimum standards for food requirements'. John Boyd Orr, the author of *Food, Health and Income*, had argued in 1934 that ten million households were 'underfed'. This was followed by a report circulated by the Pilgrim Trust, maintaining that, amongst the long-term unemployed, three in ten households were subsisting below the 'poverty line'.[85]

The political implications of a connection between income and health led to often acrimonious exchanges as the Parliament considered the issue of 'malnutrition'. In July 1936, for example, the Commons discussed the subject at length. The link to poverty was argued by the Opposition, as was the blight of 'chronic under-feeding and debility' amongst the poor. These arguments were countered by the government's insistence that there was no causal link to low income and that dietary deficiencies were as a consequence of the failings of individual families.[86]

The situation was further complicated by the difficulty in agreeing terms of reference. Surveys of household income and expenditure on food often set out with differing parameters. Sample sizes varied, as did the means used to calculate average calorific intake. Some surveys attempted to find an average level for individual household members, while others tried to establish an average for the whole household. Results had to be adjusted to account for differences in age and sex. This process in itself was subject to a variety of methodological approaches. These complicating factors were recognised in the 1930s, as was the fundamental issue of how to determine the actual level of calories needed for good health. As with the methodological differences in establishing levels of consumption, there was a broad range of values advocated for basic calorie intake, with the British Medical Association favouring 3400 calories, whereas the League of Nations advised 2400.[87] For the advocates of nutritional science, however, by harnessing the results of research it was held that improvements could be obtained equal to those achieved by early public health pioneers and sanitary reformers.[88] Notably, diet would be a key component of the methods used in the Army's Physical Development programme, an indication of the developing focus on troop welfare, extending into areas hitherto ignored.

Physical Development Depots: 'Upgrading the Sub-Standard Recruit'

An Army School of Sanitation was set up at Aldershot in 1906. The limited role of 'sanitation', often disparaged by regimental officers as just 'drains and latrines', broadened in scope into the supervision of Army 'hygiene'.[89] 'Hygiene' denoted more than the simple provision of adequate sanitation or the cleanliness of the individual. Rather, it referred to any issue affecting a soldier's health and welfare. His accommodation, his ablutions, the supervision of his physical training, the prevention of his exposure to venereal disease and his diet were amongst a multiplicity of things monitored under the heading of 'hygiene'.[90] To the treatment of infectious diseases was added the preservation of the soldier's good health. This was accompanied by a new focus on investigating the measures necessary to improve the soldier's efficiency, including overseeing recruiting and basic training.[91]

Notably, however, the desire to improve military efficiency had a lengthy history that predated the opening of the School of Sanitation. Compulsory physical training had been introduced in the 1865 edition of Queen's Regulations, using an apparatus-based training method that favoured the development of upper-body muscular strength.[92] In 1868, this military physical training course was published in a single volume together with fencing and Indian club instructions.[93] In tandem with this, recognition of the military value of fitness and competitive games meant that they grew in importance as a means for all ranks to develop 'character', teamwork and esprit de corps.[94]

The best method of training was extensively debated. Both physical and dietary approaches were considered.[95] This led eventually to the replacement of the original 'brute-strength' approach to physical training with a system of gymnastic-type

movement derived from methods pioneered in Sweden.[96] This method would be codified in the Army's manual of physical training, published in 1908. The 1931 revision of the Manual of Physical Training slightly modified the scheme of training, and with the addition of reference tables in 1937 and 1938, it served the Army until the outbreak of war in 1939.[97] 'Swedish drill' remained at the core of Army physical training through subsequent iterations of the training manual.[98] Indeed the practice of 'free exercise', using the minimum of apparatus, survived further revisions of the handbook until 1942.[99]

The Army hygiene service was reorganised in the 1920s, with a directorate of hygiene at the War Office as its head. An Army Hygiene School was administered by the directorate which also controlled hygiene research, intended to 'ensure the prevention of wastage due to disease and physical inefficiency'.[100] During the First World War, some tentative steps had been made towards this aim. A number of 'Command Depots' had been set up, with the task of minimising loss of personnel through treatable causes. Located in every major military district of the UK, Command Depots were neither hospitals nor convalescent centres. They accommodated men who, it was believed, were suitable for retraining prior to allocation to military duty. Using progressive courses of exercise and physiotherapy, injured men were given treatment to enable medical reclassification and return to active service. While this applied to trained men already in the service, the scheme prefigured the efforts to conserve manpower that would characterise the later experimental training programme for substandard recruits at Aldershot.[101]

In October 1934, the President's Address to the United Services section of the Royal Society of Medicine took the subject of 'army hygiene'. The President, Major-General Henderson, was keen to list the 'milestones' of achievement in the field. Of particular note in the Address was the description of the role of good nutrition in the maintenance of good health. In keeping with the promotion of 'protective foods', the President placed great emphasis on the consumption of fresh milk.[102] Similarly, the President commended the close co-operation that had been achieved between medical and physical training staff, resulting in research that vindicated the Army's use of progressive exercise.[103]

Used in combination with exercise, dietary intervention would be central to the 'prehabilitation' work of the Physical Development Depots. The Army's pioneering work in reducing the rejection-rates for potential recruits would eventually receive favourable comment in a *British Medical Journal* report on progress in the field of 'social medicine'. Attributing the 'wretchedly poor' condition of some men presenting at Recruiting Offices to a lack of 'the raw materials of health, growth and development', the report suggested that a remedy could be found in providing 'good food, lodging, hygiene and recreation, combined with controlled physical training', precisely the techniques in use by the Army.[104]

In 1937, the average weight of recruits aged between 20 and 24 was 135.5 pounds.[105] If, as one review has argued, Recruiting Station returns reflected a generalised 'key to the social and medical well-being of young adults', the level of 'substandard' recruits

was disturbing indeed, as the rejected men had not only failed to meet the average weight, but also the very low minimum weight of 115 pounds as well.[106] The belief in physical exercise and diet as curatives was already apparent in civil society, evidenced by the work of physical culturists and 'life reformers' and latterly, by the National Fitness movement. The Army's decision to use physical exercise as a remedial measure, in contrast to its use purely as an element in military training, marked the convergence of military and civil imperatives, with the aim of reducing the level of recruit rejections and of producing men physically capable of defending the nation and the empire. Where the Army diverged from civilian physical culturists was in its basic aim. This was stated as simply 'to train every man to a reasonable state of efficiency'. Aesthetic concerns, or training 'merely for the sake of muscular development' was considered to be 'of secondary importance'. British Army doctrine focused instead on training as a means to improve efficiency in performing the duties of a soldier.

The selection of recruits of the best possible standard was equally vital in ensuring a successful outcome to training. Accordingly, a committee was constituted in order to establish if recruit selection standards needed to be overhauled. The Committee on Physical Standards for Recruits produced its final report in September 1936, containing a number of recommendations for change. Of particular significance was the recommendation that examining medical officers could allocate 'substandard' potential recruits for remedial treatment if they were of the opinion that they would reach recruiting standards within three months.[107] To provide clear direction, the committee produced amendments to the guiding pamphlet for examining officers. An additional paragraph was inserted, directing that 'Recruits who do not reach the minimum standards .... may be submitted by the Recruiting Officer for special enlistment'.[108] Commenting on the recommendations, the Adjutant-General noted that action ought now to be taken as quickly as possible, as it 'may reduce our deficit of recruits'.[109]

The experimental programme for substandard recruits was to run from 22 September 1936 until 22 December 1936. With this intention in mind, a platoon of 33 'substandard' recruits was assembled at the Aldershot School of Physical Training, placed under the medical supervision of Captain PJL Capon of the RAMC and the physical training instruction of Quartermaster Sergeant Instructor Chilton of the Army Physical Training Corps.[110] An initial medical examination of the 33 recruits showed them to be of generally poor physique. According to Capon, they all 'gave the impression of under-nourishment and lack of fresh air and exercise'.[111] The majority of the men had been rejected as unfit for service due to being underweight and incapable of meeting the minimum chest measurement.

The training period was set at three months and was composed of physical training and enhanced diet. This combination of food and physical training was seen as vital to the successful outcome of the experiment.[112] Under Capon's scheme, an extra 7s. 6d. a week for food was allowed, in addition to the regular allocation.[113] Capon estimated that each man received 4738 calories daily, with the specific inclusion of butter, milk, salad and fruit in the daily menu.[114] The results were encouraging. After six weeks, 21

men were judged to be up to standard. By the end of the course, all but one man (who had secured his discharge from the Army) were accepted for basic training by their chosen regiments.[115] The results obtained from even a short-term programme were not lost on Capon. Describing his experiment in the *Journal of the RAMC*, he noted particularly how much could be achieved to remedy the effects of 'malnutrition', whether it was caused by poor or inadequate diet, or by 'faulty environment'.[116] A permanent training depot was opened in May 1937 at Aldershot, patterned on the original scheme. The RPDD was commanded by Major NP Proctor and medical supervision was again given by Captain Capon. As the dietary system in operation at the recruit centres was to be complemented with physical training, Quartermaster Sergeant Instructor Chilton was appointed as Warrant Officer in charge of this aspect of treatment. As with the original course, the intention was to expose recruits who did not meet the basic physical standard to a 'minimum of military training … (but) … a maximum of physical training'.[117]

Recruits presented with a range of physical afflictions—postural problems, curvature of the spine, poor muscular development and stiffness in the joints. Greater muscular development, better cardiovascular efficiency and increased stamina were the expected outcome after a course of physical training, used in conjunction with enhanced diet.[118] Notably, however, the development of trainees was not limited to creating a particular level of bodily fitness. Instructors were advised that exercise ought to 'produce alertness of mind' and 'develop character'.[119] By engaging fully with their physical training, recruits would acquire greater 'mental alertness and responsiveness' and 'full moral and mental development'.[120] These were lofty ideals, but ones which, it was believed, could be attained through a course of training. They were also believed to be necessary acquisitions for the substandard recruit, who very often 'lacked the opportunities for normal growth and development of mind' prior to joining the Army. By using a variety of tests, measurable results were obtained.[121] Improvements in recruits' scores in intelligence tests were cited as evidence of the successful acquisition of greater moral and mental capacity after training.[122]

The *Journal of the RAMC* published its own review of the RPDD programme in July 1939. The use of physical training and special diet was described, forming a remedy that was based on six cardinal principles. First, 'good environment', then 'sound sleep', 'hard work', 'healthy recreation', 'good food', and lastly, 'contentment'.[123] Each was intended to address deficiencies caused by the recruit's previous circumstances. The review also described the nature of the 'defects' observed in the recruits sent for training at the RPDD. A gloomy picture of the early years of an 'average' undersized recruit is painted; yet, no attempt (contrary to that of some contemporary civilian commentators) is made to show a causal link between poverty and malnutrition. Describing recruit medical examinations, it is disclosed that, amongst rejected cases, around 98 per cent were underweight, with 80 per cent of those also failing to meet the required chest measurement.[124] The suggestions offered as to the cause of these defects mirrored those given by Captain Capon in his assessment of his 'feeding experiment'. A combination of factors was suggested, including poor diet, insufficient food and a

variety of 'social' or 'environmental' causes. Typically, the men were from an urban background, formerly employed in factories, mills or collieries. They would have been born prior to the safeguards of the Housing Acts, and the milk purity regulations. As a consequence, they were likely to have lived in overcrowded conditions, and have been at risk from adulterated milk. Their means of employment affected their physical development, resulting in postural defects. Their hours of work left little time for physical exercise or recreation. Working hours also affected their diet, as they were likely to have to take two meals to eat at work. The resultant diet was based largely on white bread and tea.[125]

To mitigate the effect of this, the corrective RPDD diet included fruit, and milk purchased with the extra food allowance allocated for substandard recruits.[126] Based on the idea of 'protective foods', the provision of milk to the substandard men was seen as vital. Consequently, a ration of 'not less than one pint a day' was given to the recruits.[127] In the case of other food, recruits at the Depot received the normal diet given to all the regular Army, with certain additions. A representative day's menu was comprised of the set meals of breakfast, dinner and tea, together with a snack of tea and barley sugar at 6.30 am, prior to breakfast. As well as this addition, at 10.30 a.m. the men were fed a banana with cocoa, while at supper they received cottage pie, bread, margarine and tea.[128]

The Aldershot Depot was transferred to Canterbury in November 1937, to form Number 1 RPDD. A second depot, Number 2 RPDD, was opened in April 1938, located at Scarborough. The work of the Canterbury RPDD was reported in March 1938, by the Secretary for War, Leslie Hore-Belisha. His statement explained that a total of 789 recruits had attended the Depot, with 464 improving sufficiently to move on to regular training. Some 260 men had been retained at the Depot for further training, while only 65 men had been discharged as being unlikely to improve enough to attend their Regimental Depots for regular training.[129] Crucially, in a period when the paucity of recruits to the Army was giving grave concern, the increase in manpower achieved as a result of the success of the RPDD would enable an additional battalion to be raised each year.[130] Similarly, impressive results continued to be reported in subsequent years, with Hore-Belisha announcing in June 1939 that the RPDDs had now dealt with 2775 men in total, with only 196 having been discharged as not being able to attain the minimum standard.[131]

The Royal Society of Medicine summed up the role of the RPDDs as 'preventive' and 'corrective'. The society acknowledged the obvious military bias to the RPDDs role, as treatment had ultimately to produce a recruit who was fit enough to be a soldier, yet hailed the combination of exercise and medical intervention as bringing about substantial changes in general health.[132] Teaching hospitals were exhorted to adopt the RPDDs approach to preventative medicine, and the Army's training programme was presented as offering an exemplar for medical science as a whole, with sincere pleas for the continuation of the Army's experiment after the war.[133]

Conclusion

From the early years of the twentieth century, the health of the nation was the subject of extensive debate encouraged by anxieties about the apparent enfeeblement and 'degeneration' of the people. In turn, these anxieties settled on fears of an inability to provide adequately for the nation's defence. When allied to disturbing reports of the physical inadequacies of potential recruits to the Army, such 'degeneration anxiety' found a fresh focus. Concerns intensified in the 1930s, at a time of exceptionally poor levels of recruitment for the British Army. To effect a solution required, in part, making the best use of the available manpower and those men presenting as potential recruits. The Recruit Physical Development programme was, therefore, suggestive of the extent to which the Army was prepared to innovate. Moreover, it was distinctive in that it affected pre-service conditions, in contrast to other approaches to the recruitment problem that concentrated on in-service and post-service incentives. The initial small-scale experiment set up at Aldershot, taking 'substandard' recruits marked the start of increasingly ambitious interventions designed to improve the health and physique of recruits who would, previously, have been rejected as unfit.

The principles governing the setting up of the Army's Physical Development Depots can therefore be located in the canon of public welfare, deriving from direct intervention to improve the general condition of the population. The experimental programme of treatment also constituted a further enhancement of 'hygiene' management in the Army, extending its scope beyond an emphasis on sanitation to encompass the control of recruitment and the day-to-day welfare of the soldier. The original role of military 'hygiene' was the preservation of fighting efficiency, which was achieved by controlling sanitation, personal cleanliness and by the prevention of venereal disease. The methods used at the RPDDs expanded the role into one designed to conserve scarce manpower. In this regard, it points towards a growth in understanding of the effect of social factors on medical conditions, by combining diet, physical work and 'purposeful' recreation. This again points to the vexed question of the exact cause of 'malnutrition'. Notwithstanding the conclusions of numerous civilian commentators, accurate definition and assessment of 'malnutrition' remained elusive. While recognising the effect of poverty, especially in designated 'Special Areas' like Jarrow and Pontypridd, the British Army, nevertheless, favoured an assessment of 'malnutrition' that was based on a combination of dietary and environmental factors. Accordingly, the course of treatment used in the experimental recruit development programme reflected this belief.

Despite their achievements, the Physical Development Depots were closed at the outbreak of the Second World War, as the accommodation they offered was needed to cope with greater numbers of 'hostilities only' recruits. With such an influx, however, the need for some form of prehabilitation training was rapidly apparent. Now designated as Physical Development Centres (PDC), the Physical Development Depots were reopened. Kingston PDC opened in 1941, Skegness PDC in 1942 and Hereford PDC in 1943. These centres were later amalgamated into one main PDC at Chester that remained open until 1949.[134] The wartime PDCs built on the achievements of the

pre-war RPDDs that had offered a practical response to a specific problem. With simple additions to standard Regular Army rations, and graduated exercise, the resources needed were modest, yet the outcome was impressive. At the end of the Second World War, more than 12,000 men had been treated at a PDC, a new generation of 'substandard' recruits having been introduced to Captain Capon's cure.[135]

Notes

[1] Zweiniger-Bargielowska, 'Building a British Superman', 609.
[2] See for example the work of Ina Zweiniger-Bargielowska, George Mosse, Ana Carden-Coyne and Joanna Bourke.
[3] Peden, 'The British Army', 83.
[4] French, 'Doctrine and Organization', 506.
[5] Boff, *Winning and Losing*, 124, 162.
[6] French, 'Doctrine and Organization', 508.
[7] Peden, 'The British Army', 89.
[8] French, 'Doctrine and Organization', 497.
[9] Ibid., 513.
[10] Neilson, 'The Defence Requirements Sub-Committee', 653.
[11] Ibid., 662.
[12] Ibid., 653.
[13] Ibid., 672.
[14] The National Archives (TNA): CAB 24/247, Report of the Defence Requirements Committee, February 1934.
[15] Ibid.
[16] Peden, 'The British Army', 94.
[17] Harrison, *Medicine and Victory*, 30.
[18] Harris, 'The British General Staff', 146.
[19] Lambert, 'Army Recruiting', 572.
[20] TNA: CAB 24/261, Recruiting for the Army, April 1936.
[21] *The Straits Times*, 19 November 1936, 18.
[22] French, 'Big Wars and Small Wars', 47.
[23] See note 20 above.
[24] Ibid.
[25] Ibid.
[26] 'Health of the Army', 20 March 1937, 625.
[27] *The Times*, 5 March 1937, 9.
[28] TNA: CAB 24/265, Recruiting for the Army, October 1936.
[29] Ibid., 1.
[30] Ibid., 2.
[31] Manpower requirements were fluid, depending, among other factors, on projections contained in annual Army Estimates. However, taking the average complement as 200,000—see TNA: CAB 24/274, The Organisation of the Army. Appendix 2 and United Kingdom, *Parliamentary Debates*, Commons, 5th ser., vol. 326 (1937), cols. 1278–9—the shortfall between 1937 and 1939 stood at between 10 and 11 per cent. Also see French, *Raising Churchill's Army*, 49.
[32] TNA: CAB 24/265, Recruiting for the Army, October 1936, 2.
[33] *Manchester Guardian*, 20 November 1936, 10.
[34] United Kingdom, *Parliamentary Debates*, Lords, 4th ser., vol. 196 (1908), cols. 818–37.
[35] United Kingdom, *Parliamentary Debates*, Commons, 5th ser., vol. 1 (1909), cols. 1662–91.

[36] TNA: CAB 24/265, Recruiting for the Army, October 1936.
[37] See note 33 above.
[38] See note 36 above.
[39] Ibid.
[40] TNA CAB 24/250, The Need for Improved Nutrition, June 1934, 4.
[41] Ibid., 5–6.
[42] Ibid., 4.
[43] *Manchester Guardian*, 12 December 1933, 4.
[44] United Kingdom, *Parliamentary Debates*, Commons, 5th ser., vol. 284 (1933), cols. 23–4.
[45] United Kingdom, *Parliamentary Debates*, Commons, 5th ser., vol. 314 (1936), cols. 1229–349.
[46] Zweiniger-Bargielowska, *Managing the Body*, 1.
[47] Heggie, 'Lies, Damn Lies', 187.
[48] United Kingdom, *Report of the Inter-departmental Committee on Physical Deterioration*, 1904.
[49] Ibid., 92.
[50] Zweiniger-Bargielowska, 'Building a British Superman', 600.
[51] Fletcher, 'PULHEEMS: A New System', 83.
[52] Winter, 'Military Fitness and Civilian Health', 231.
[53] Ibid., 211.
[54] Segal, *Slow Motion*, 106.
[55] Zweiniger-Bargielowska, 'Building a British Superman', 598.
[56] Ibid., 599.
[57] Sandow, *Sandow On Physical Training*, n.p.
[58] Budd, *The Sculpture Machine*, xv.
[59] Zweiniger-Bargielowska, *Managing the Body*, 90.
[60] Bourke, *Dismembering the Male*, 139.
[61] Neil, *Modern Physical Culture*, 9.
[62] Burrows, *Physical Training and Bodily Exercise*, 94.
[63] Mueller, *My System*, 21.
[64] *Health and Strength Magazine*, 31 December 1938, 25.
[65] *Manchester Guardian*, 7 February 1937, 22.
[66] MacDonald, *Strong, Beautiful and Modern*, 54.
[67] Zweiniger-Bargielowska, 'Building a British Superman', 606.
[68] TNA CAB 23/87, Physical Training and Recreation, January 1937, 3.
[69] One such organisation was the Bermondsey-based Lucas-Tooth Institute. This was a well-established group that already offered physical and recreational training to youths and men. *The Times*, 30 September 1937, 37.
[70] TNA CAB 23/87, Physical Training and Recreation, January 1937, 4–5.
[71] Ibid., 3.
[72] United Kingdom, *Parliamentary Debates*, Lords, 5th ser., vol. 105 (1937), cols. 871–94.
[73] United Kingdom, *Parliamentary Debates*, Lords, 5th ser., vol. 103 (1936), cols. 47–91.
[74] 'Discussion on the Assessment of Physical Fitness', 85.
[75] *The Spectator*, 5 February 1937, 5.
[76] *The Times*, 30 September 1937, 52.
[77] *The Spectator*, 29 October 1937, 10.
[78] Zweiniger-Bargielowska, 'Building a British Superman', 595.
[79] Ibid., 609.
[80] TNA CAB 24/250, The Need for Improved Nutrition, June 1934, 6.
[81] League of Nations, *Nutrition*, 65.
[82] Ibid., 87.
[83] League of Nations, *The Problem of Nutrition*, 210.

[84] Orr, *Food, Health and Income*; and M'Gonigle and Kirby, *Poverty and Public Health.*
[85] Smith, 'Please Let it Never Happen Again', 1191.
[86] Mayhew, 'The 1930s Nutrition Controversy', 452.
[87] Widdowson, 'A Study of English Diets', 270–272.
[88] TNA CAB 24/250, The Need for Improved Nutrition, June 1934, 9.
[89] Anderson, 'The Recent Trend', 38.
[90] Henderson, 'Some Milestones of Achievement', 1.
[91] Anderson, 'The Recent Trend', 34.
[92] Campbell, 'Training for Sport', 28, 30.
[93] Maclaren, A *Military System.*
[94] Campbell, 'Training for Sport', 27.
[95] Ibid., 40.
[96] Henderson, 'Some Milestones of Achievement', 1.
[97] War Office, *Manual of Physical Training.*
[98] War Office, *Physical and Recreational Training*, 1940. This was superseded by *Physical and Recreational Training*, 1941.
[99] War Office, *Purposeful and Basic Physical Training*, 1942.
[100] 'The Health of the Army', 488.
[101] Anderson, 'The Recent Trend', 42.
[102] Henderson, 'Some Milestones of Achievement', 6.
[103] Ibid., 9.
[104] 'Report of the Committee on Rehabilitation', 192.
[105] Rosenbaum and Crowdy, 'British Army Recruits', 85.
[106] Ibid., 86.
[107] TNA WO 32/4643 Committee on Physical Standards for Recruits.
[108] Ibid., citing paragraph 49a of *Regulations for Recruiting for the Regular Army Appendix B.*
[109] Ibid.
[110] Oldfield, *History of the Army*, 57.
[111] Capon, 'The Experiment on Sub-Standard Recruits', 294.
[112] Ibid., 297.
[113] Mayhew, 'The 1930s Nutrition Controversy', 460.
[114] Capon, 'The Experiment on Sub-Standard Recruits', 296.
[115] Oldfield, *History of the Army*, 58.
[116] Capon, 'The Experiment on Sub-Standard Recruits', 303.
[117] See note 105 above.
[118] 'Discussion on the Assessment of Physical Fitness', 89.
[119] War Office, *Manual of Physical Training*, 1931, 1.
[120] Ibid., 3–4.
[121] Wand-Tetley, 'Physical Training', 536.
[122] 'Report of the Committee on Rehabilitation', 192–193.
[123] Crawford, 'The Work', 8.
[124] Ibid., 2.
[125] Ibid., 3–5.
[126] United Kingdom, *Parliamentary Debates*, Commons, 5th ser., vol. 350 (1939), cols. 1234–5.
[127] United Kingdom, *Parliamentary Debates*, Commons, 5th ser., vol. 345 (1939), col. 1090.
[128] United Kingdom, *Parliamentary Debates*, Commons, 5th ser., vol. 329 (1937), cols. 1856–7.
[129] *Manchester Guardian*, 4 March 1938, 15.
[130] *The Times*, 10 February 1938, 7.
[131] United Kingdom, *Parliamentary Debates*, Commons, 5th ser., vol. 349 (1939), col. 201.
[132] 'Development of Health in Adolescents', 195.

[133] Ibid.
[134] Oldfield, *History of the Army*, 76.
[135] This represents a yearly average of 0.11 per cent of the total manpower of the British Army. While this is clearly only a very small proportion, it is, nonetheless, an important contribution, especially in the context of the 'reinforcement crisis' in the North-West Europe campaign. For more on this, see Peaty, 'British Army Manpower'; and Hart, *Colossal Cracks*, 49, 190. Peaty also helpfully includes information on the number of men who failed their initial army medical—between 1939 and 1945, 587,131 men, a rate of 8.9 per cent, were rejected as 'Grade IV' recruits.

References

Primary Sources

Books, Newspapers and Periodicals

Burrows, T. W. *Physical Training and Bodily Exercise*. London: Health & Strength, 1907.
Health and Strength Magazine. December 31, 1938.
League of Nations. *The Problem of Nutrition, Volume 3*. Geneva: League of Nations Publications Department, 1936.
League of Nations. *Nutrition. Final Report of the Mixed Committee of the League of Nations*. Geneva: League of Nations Publications Department, 1937.
Manchester Guardian. December 12, 1933.
Manchester Guardian. November 20, 1936.
Manchester Guardian. February 7, 1937.
Manchester Guardian. March 4, 1938.
M'Gonigle, G. M. C., and J. Kirby. *Poverty and Public Health*. Garland: London, 1936.
Mueller, J. P. *My System. 15 Minutes Exercise a Day for Health's Sake*. London: Athletic, 1904.
Neil, C. Lang. *Modern Physical Culture*. London: Pearson, 1905.
Orr, John Boyd. *Food, Health and Income*. London: Macmillan, 1936.
Sandow, Eugen. *Sandow on Physical Training*. New York: Tait and Sons, 1894.
The Spectator. February 5, 1937.
The Spectator. October 29, 1937.
The Straits Times. November 19, 1936.
The Times. March 5, 1937.
The Times. September 30, 1937.
The Times. February 10, 1938.

Journals

Anderson, J. A. 'The Recent Trend of Military Hygiene.' *Proceedings of the Royal Society of Medicine* (April 1924): 27–42.
Capon, P. J. L. 'The Experiment on Sub-Standard Recruits.' *Journal of the Royal Army Medical Corps* 65 (1937): 293–304.
Crawford, J. A. 'The Work at the Recruits' Physical Development Depot, Canterbury: The Undersized Recruit.' *Journal of the Royal Army Medical Corps* 73 (1939): 1–39.
'Development of Health in Adolescents'. *The British Medical Journal* 1 (February 10, 1945): 195–196.
'Discussion on the Assessment of Physical Fitness'. *Proceedings of the Royal Society of Medicine* 32 (February 1939): 85–96.
Fletcher, Roy. 'PULHEEMS: A New System of Medical Classification.' *The British Medical Journal* 1 (January 15, 1949): 85–96.

'The Health of the Army'. *British Medical Journal* 2 (September 13, 1924): 488.
'Health of the Army'. *British Medical Journal* 1 (March 20, 1937): 625.
Henderson, P. H. 'Some Milestones of Achievement in Army Hygiene and a Few Suggestions for Further Progress.' *Proceedings of the Royal Society of Medicine* (October 1934): 1–14.
Lambert, A. F. 'Army Recruiting.' *Royal United Services Institution Journal* 80 (1935): 572–579.
'Report of the Committee on Rehabilitation'. Supplement to the *British Medical Journal* 1 (June 29, 1946): 192–193.
Wand-Tetley, T. H. 'Physical Training.' *The British Medical Journal* 2 (October 19, 1940): 536.
Widdowson, E. M. 'A Study of English Diets by the Individual Method. Part 1.' *Journal of Hygiene* 36 (July 1936): 269–292.

National Archives

The National Archives (TNA): CAB 24/247 Cabinet Report, Report of the Defence Requirements Committee February 28 1934.
TNA: CAB 24/250 Cabinet Report, Report of the Committee for Scientific Research. The Need for Improved Nutrition June 30, 1934.
TNA: CAB 24/261 Cabinet Report, Recruiting for the Army April 2, 1936.
TNA: CAB 24/265 Cabinet Report, Recruiting for the Army October 16, 1936.
TNA: CAB 23/87 Cabinet Report, Physical Training and Recreation January 22, 1937.
TNA: CAB 24/274 Cabinet Report, The Organisation of the Army for its Role in War February 10, 1938.
TNA: WO 32/4643 Committee on Physical Standards for Recruits. September 15, 1936.

Parliamentary Reports

United Kingdom. *Report of the Inter-departmental Committee on Physical Deterioration*. London: HMSO, 1904.
United Kingdom. *Parliamentary Debates*, Lords, 4th ser., vol. 196 (1908), cols. 818–37.
United Kingdom. *Parliamentary Debates*, Commons, 5th ser., vol. 1 (1909), cols. 1662–91.
United Kingdom. *Parliamentary Debates*, Commons, 5th ser., vol. 284 (1933), cols. 23–4.
United Kingdom. *Parliamentary Debates*, Commons, 5th ser., vol. 314 (1936), cols. 1229–349.
United Kingdom. *Parliamentary Debates*, Lords, 5th ser., vol. 103 (1936), cols. 47–91.
United Kingdom. *Parliamentary Debates*, Lords, 5th ser., vol. 105 (1937), cols. 871–94.
United Kingdom. *Parliamentary Debates*, Commons, 5th ser., vol. 326 (1937), cols. 1278–9.
United Kingdom. *Parliamentary Debates*, Commons, 5th ser., vol. 329 (1937), cols. 1856–7.
United Kingdom. *Parliamentary Debates*, Commons, 5th ser., vol. 345 (1939), col. 1090.
United Kingdom. *Parliamentary Debates*, Commons, 5th ser., vol. 349 (1939), col. 201.
United Kingdom. *Parliamentary Debates*, Commons, 5th ser., vol. 350 (1939), cols. 1234–5.

War Office Publications

Maclaren, Archibald. *A Military System of Gymnastic Exercises, and a System of Fencing for the Use of Instructors*. London: HMSO, 1868.
War Office. *Manual of Physical Training*. London: HMSO, 1931.
War Office. *Physical and Recreational Training*. London: HMSO, 1940.
War Office. *Physical and Recreational Training*. London: HMSO, 1941.
War Office. *Purposeful and Basic Physical Training*. London: HMSO, 1942.

Secondary Sources

Boff, Jonathan. *Winning and Losing on the Western Front: The British Third Army and the Defeat of Germany in 1918*. Cambridge: Cambridge University Press, 2012.

Bourke, Joanna. *Dismembering the Male: Men's Bodies, Britain and the Great War*. London: Reaktion Books, 1999.

Bourke, Joanna. *Working Class Cultures in Britain 1890–1960*. London: Routledge, 1994.

Budd, M. A. *The Sculpture Machine. Physical Culture and Body Politics in the Age of Empire*. New York: New York University Press, 1997.

Campbell, J. D. '"Training for Sport is Training for War": Sport and the Transformation of the British Army, 1860-1914.' *The International Journal of the History of Sport* 17 (2000): 21–58.

French, David. 'Big Wars and Small Wars between the Wars, 1919–39.' In *Big Wars and Small Wars. The British Army and the Lessons of War in the Twentieth Century*, edited by Hew Strachan, 36–53. London: Routledge, 2006.

French, David. 'Doctrine and Organisation in the British Army, 1919–1932.' *The Historical Journal* 44 (2001): 497–515.

French, David. *Raising Churchill's Army: The British Army and the War against Germany, 1919–1945*. Oxford: Oxford University Press, 2000.

Harris, J. P. 'The British General Staff and the Coming of War, 1933–39.' In *The British General Staff: Reform and Innovation, 1890–1939*, edited by David French and Brian Holden Reid, 146–159. London: Frank Cass, 2002.

Harrison, Mark. *Medicine and Victory*. Oxford: Oxford University Press, 2004.

Hart, Stephen. *Colossal Cracks: Montgomery's 21st Army Group in North West Europe, 1944–45*. Westport, CT: Greenwood, 2000.

Heggie, Vanessa. 'Lies, Damn Lies, and Manchester's Recruiting Statistics: Degeneration as an "Urban Legend" in Victorian and Edwardian Britain.' *Journal of the History of Medicine and Allied Sciences* 63 (April 2008): 178–216.

MacDonald, Charlotte. *Strong, Beautiful and Modern: National Fitness in Britain, New Zealand, Australia and Canada, 1935–1960*. Ottawa, ON: UBC Press, 2011.

Mayhew, Madeleine. 'The 1930s Nutrition Controversy.' *Journal of Contemporary History* 23 (July 1988): 445–464.

Mosse, George. *The Image of Man. The Creation of Modern Masculinity*. Oxford: Oxford University Press, 1996.

Neilson, Keith. 'The Defence Requirements Sub-Committee, British Strategic Foreign Policy, Neville Chamberlain, and the Path to Appeasement.' *English Historical Review* 477 (June 2003): 651–684.

Oldfield, E. A. L. *History of the Army Physical Training Corps*. Aldershot: Gale and Polden, 1955.

Peaty, John Robert. 'British Army Manpower Crisis 1944.' PhD diss., Kings College London, 2000.

Peden, G. C. 'The British Army after the Victories of 1918 and 1945.' In *Victory or Defeat: Armies in the Aftermath of Conflict: The 2010 Chief of Army History Conference*, edited by P. Dennis and J. Grey. Canberra: Big Sky, 2010.

Rosenbaum, S., and J. P. Crowdy. 'British Army Recruits: 100 Years of Heights and Weights.' *Journal of the Royal Army Medical Corps* 138 (1992): 81–86.

Segal, Lynn. *Slow Motion: Changing Masculinities, Changing Men*. London: Virago Press, 1997.

Smith, Richard. 'Please Never Let it Happen Again.' *British Medical Journal* 291 (October 1985): 1191–1195.

Winter, J. M. 'Military Fitness and Civilian Health in Britain during the First World War.' *Journal of Contemporary History* 15 (April 1980): 211–244.

Zweiniger-Bargielowska, Ina. 'Building a British Superman: Physical Culture in Interwar Britain.' *Journal of Contemporary History* 41 (October 2006): 595–610.

Zweiniger-Bargielowska, Ina. *Managing the Body: Beauty, Health and Fitness in Britain 1880–1939*. New York: Oxford University Press, 2010.