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The potential role of physical activity as an alternative and accompanying form of prevention and management of psychological well-being is the focus of Physical Activity and Psychological Well-Being. The increasing prevalence and public health costs associated with mental health conditions are highlighted in this book's opening chapter. The authors also present a sound case for exercise in the promotion of mental health by outlining that exercise is often inexpensive, carries negligible deleterious side effects, and can be self-sustaining in that it can be maintained by the individual once basic skills have been learnt.

The importance of the role of physical activity and mental health is reflected in the book's logical structure of subsequent chapters focussing on the following topics: the effects of exercise and physical activity on stress and anxiety; clinically-defined depression; mood and emotion; self-esteem and self-perceptions; cognitive performance, fitness and aging; and the negative effects of physical activity on psychological well-being. The leaders in the field provide an overview of key issues and debates for both researchers and practitioners that are summarized at the end with 'a *what we know, what we need to know*' approach. A well-presented summery chapter on future research and methodological issues concludes the book.

One of the many strengths of this book is in the compilation of evidence on physical activity and mental health. The chapter on depression unpacks the key issues surrounding physical activity and depression, including casual mechanisms, the dose response relationship and practical application. The evidence base surrounding inactivity is discussed as a risk factor for depression, as well as depression as a risk factor for physical inactivity. To what extent can an inactive lifestyle be one of a number of risk factor for depression? Farmer et al. (1988) reported a follow-up of 1497 respondents to a large survey with a particular regard to activity and depression.

This study showed that over a period of 8 years women who engaged in little or no activity were twice as likely to develop depression as those who engaged in much or moderate activity. There is not a significant association over the same time period for men, but for those who were depressed at baseline, inactivity was found to be a strong predictor of confined depression at the eight year follow-up.

Mental health patients often report that they do not want drugs (Scott, 1996), yet drugs are one the most common form of treatment for depression. Moreover, given that many common non-drug treatments such as cognitive-behavioural therapies can be expensive and often in short supply, there is much to commend of other strategies. Whilst medication might be the most appropriate form of treatment for some people, this book raises the awareness of physical activity as a complimentary form of treatment.

The broader issue of needs assessment and consultation in treatment aimed at people with mental health problem is also raised. If we are going to understand and facilitate exercise adoption and maintenance, then needs assessment is an important consideration. A further issue which holds implications for needs assessment is highlighted in the chapter on the negative effects of physical activity on psychological well-being. Just as the issue of inactivity as a risk factor for depression is raised in this book, “The physical and mental benefits of physical activity are almost undisputed, however in isolated cases physical activity can lead to undesirable or harmful psychological states”. This volume offers valuable information on primary and secondary exercise addiction covering terminology, the distinction between conditions, correlates, characteristics and assessment tools which offer a useful guide to practitioners and researchers working in this area.

As many as 50% of people who initiate an exercise program will discontinue in the subsequent six months (Dishman & Buckworth, 1997). We learn in this book that through effective methods of needs assessment and assessment of an individual's readiness to adopt a programme of physical activity, it may be possible to obtain a more complete understanding of how the determinants of mental health status (along with other determinants) effect adoption and adherence to physical activity.

In view of a growing older population with an associated decline in both physical activity levels and increase in chronic health problems, the chapter on cognitive performance, physical activity and aging is important. The role of physical activity in older people is receiving increased coverage in the literature (Health Education Authority, 1997, 1999). As highlighted, if the age-related degradation in cognitive performance can be prevented, then health care costs and suffering could be significantly reduced and functional ability and quality of life improved. Indeed, physical fitness is one of the few non-pharmacological interventions that could offset the cognitive decline accompanying age.

The key terminology in the area and research from both cross sectional and intervention studies on the role of physical activity and fitness on cognitive performance is reviewed. The importance of this area is highlighted when considering the mental health components associated with a range of health conditions of public health significance. This is illustrated with the example of fall related accidents. The cost of treating hip fractures in the UK is £940m annually (Health Education Authority, 1999). Such a public health issue has been identified as being complex and includes mental health issues such as fear of falling, low self efficacy, social isolation and anxiety. If physical activity interventions lead to a reduction in falls in populations who have fall related risk factors, and if in the process the intervention

addresses the psychological components of falls both directly or indirectly, it is anticipated it will be of great value.

One of the most important questions in the domain of physical activity is related to how mental health benefits are acquired. This area is discussed throughout the book, and in particular in the final chapter. There is a useful discussion of how and when these mechanisms differ between different doses of exercise with different types of exercisers, and how and when the mechanisms interact with each other. In obtaining a more complete understanding of the value that physical activity has in promoting psychological well-being, the development of knowledge in these areas requires much consideration.

Whilst there is emerging research in this area there is an absence of evidence-based practice in physical activity promotion for psychological well-being. As such, the authors argue that researchers need to develop accepted and standardized measures of physical activity, and reach consensus on the most effective types of instruments and indicators to measure mental health outcomes in order to assist practitioners in implementing and evaluating practice. An increased awareness through education and training for mental health professionals and primary care teams on the potential role of physical and mental health and practical guidelines is also needed. Whereas there are some excellent examples of physical activity promotion in primary care (Donaldson, 2000), the potential that primary care alliances have for promoting physical activity is not being fully realised (Fox, Biddle, & Edmonds, 1994; Health Education Authority, 1993). Reasons for this have been proposed in the literature (e.g., McDowell, McKenna, & Naylor, 1997). There remains, however, issues pertaining to the measurement of the effectiveness that exercise referral schemes have in promoting physical activity (Riddoch, Puig-Ribera, & Cooper, 1998). It is also

important to raise the importance of partnerships working as advocated through key policy where mental health and physical activity professionals can work in collaboration to promote better mental health.

Psychology of physical activity: Determinants, well-being and interventions

In the Psychology of Physical Activity: Determinants, Well-Being and Interventions, Biddle and Mutrie provide a synergy of the extant research, theories and interventions in the area. It encompasses a number of themes that have been increasingly prevalent in empirical and non-empirical studies over the last ten years. Since the publication of this book's predecessor, Psychology of Physical Activity and Exercise: A Health-Related Perspective (Biddle & Mutrie, 1991), a great deal of consideration has been allied to the principles of exercise psychology and issues such as adoption, adherence and maintenance of exercise and physical activity. The aim of this publication, therefore, is "to provide a resource for anyone wanting to understand the key psychological principles behind physical activity and the steps toward a more active and healthier lifestyle".

This volume offers a compendium of past and current attitudes toward the psychology of physical activity, a rationale for current thinking and a catalyst for the future of the subject. It is an enthralling text from an academic aspect, as well as being a startling reminder to the health and exercise profession of the depth of knowledge, expertise and effort that is required to achieve national health targets at macro and micro levels. To this end, it provides a deliberate focus towards the practitioner, whilst at the same time satisfying academic investigation by way of a fairly extensive theoretical foundation from which future recommendations are made. It is this diverse consideration of the readership that makes the text suitable for the multi-agency

approach to the analysis, development and intervention of the psychological facets of physical activity.

The book assists the reader in exploring both the empirical supports for physical activity adoption, as well as providing a justification for the benefits from an applied perspective. To this end it aims to unpack the facets of the 'motivations for physical activity', the 'feel good factor', and 'intervention to encourage physical activity'. In addition, anecdotal evidence is weaved throughout the text to support the applied and theoretical methods and models that are presented.

The book is structured into four parts, the first of which provides a clear rationale for the book before moving to consider 'motivation' and 'psychological determinants'. The authors logically transpose this onto a framework, which considers psychological outcomes of physical activity and then interventions, applications and future directions. Each chapter provides a set of objectives that integrate pertinent aspects of theoretical content and applied principles and guidelines where relevant.

An interesting consideration, which is explicit in the title and implicit in the flavour of the text, is the shift in perspective to a broader acceptance of the importance of lifestyle activity for health, of which programmed exercise sessions might be just one part (p. xii). By avoiding a myopic vision in the physical activity debate the authors have created a broad, but coherent consideration of this perspective.

The introduction and rationale sets the scene for concepts that are expanded upon in later sections of the book. At this stage it is descriptive in nature, although this in itself provides readers the opportunity to contextualise current thinking and potential opportunities for intervention within a coherent and logical framework. Exercise referral is applied as a vehicle to demonstrate the application and setting for exercise

adherence issues and this confirms the necessity for a national framework that has been recently published by the National Health Service (2001) in consultation with Exercise England and the British Association of Sport and Exercise Sciences. It is not merely a coincidence then that frameworks are being implemented within which physical activity promotion is a part. As is the emphasis of the book, the authors have moved to encompass 'exercise' within a wider appreciation of lifestyle change. Indeed, this change may be suggested to be the next stage in our evolutionary history, which now finds us living a largely unhealthy lifestyle (Astrand, 1994).

Barriers to physical activity are often associated with a consideration of motivation factors. The book's second section provides a comparison of the traditional 'intensity versus direction' of motivation and reviews its efficacy within the context of physical activity adoption in conjunction with an awareness of 'barriers' to lifestyle change. By its own admission, a key objective in this chapter is to discuss the literature, which at present provides a descriptive approach to motivation and physical activity. This is in contrast to the analytical agendas of many other empirical papers and text. However, this is entirely relevant as a method of disseminating often-heuristic models and methods that are adjusted according to population groups such as children and adults and their participation motives and barriers to behaviour change.

A coherent argument for presenting this variety of perspectives is noted by the authors who rightly describe the constructs of motivation to be varied and to involve psychological, social, environmental and biological influences. The chapters within this section exhibit clarity in perspective between motivation by population group (i.e., children, youth and adults) as compared to the 'self'. State-trait facets of motivation are approached through exploration and analysis of topics such as competence and confidence, attitudes and physical activity, and exercise perceptions

and social environments. Motivation is also reviewed through feelings and perceptions of control and autonomy providing an analysis of social cognitive approaches. This presents an opportunity to explore here, and in later chapters, seminal work such as that of Bandura (1986) who explored the relationship of self-efficacy and self-regulatory functions and measurement.

In describing the 'performance' aspect of motivation, the authors elude to the essence of this book by comparing Maehr and Braskamp's (1986, p. 30) description of motivation against that of Weiner (1992). Maehr and Braskamp describe performance as an indicator of motivation to be an aspect, which cannot be explained simply in terms of competence, skill or physiological factors. However important these parameters may be in relation to practitioners, as a measure of attainment of their clients, Weiner provides an alternative viewpoint which describes the 'why' of human action rather than the 'how' to be the critical factor in relation to motivation of physical activity - an opinion which is supported by Biddle and Mutrie.

Interestingly, a heavy emphasis is placed on providing a historical context to the topic of physical activity motivation. The authors emphasise the eight issues suggested by Weiner (1992) as being important in order to provide an overview of current and future trends in the area, and in relation to the text, provide a framework from which the context of models and theoretical paradigms can be sought. The 'parasitic nature' of exercise psychological theory is described from the parent disciplines of educational, motivational and social psychology, though its importance as a solid platform from which tailored intervention strategies can be derived is suggested.

Recent studies have been carried out by Biddle and associates (e.g., Smith & Biddle, 1999) who have attempted to assess the efficacy of theories such as the

Theory of Reasoned Action (Fishbein & Ajzen, 1975) and Planned Behaviour (Ajzen, 1988). This may help to explain their inclusion as part of the current plethora of studies that are considered as a meta-analytical review in the book. It also explains the consideration of the varied population about which motivation is focused. For example, Spray, Biddle and Fox (1999), who considered achievement goals in post-16 physical education, has a rightful place in the target groups emphasised in the intervention section.

One frustration to current exercise promotion programs operating in applied settings is the wide variety of strategies and the methodological inconsistencies of the evaluation of such physical activity programmes. This is typified by the lack of a common language that the authors describe. Biddle and Mutrie suggest that “although we need to establish one language we are not in a position to know what that language is” (p. 132). This text does not, therefore, attempt to provide a panacea through psychological intervention strategies, more so it advocates a balanced approach to the analysis of patient needs and subsequent implementation of appropriate physical activity. Although primary health care is not obscurant in relation to physical activity as an alternative to pharmacological intervention, it seems this text will assist in the justification for a greater appreciation of the diverse opportunities that physical activity in general, and exercise specifically, can offer.

There is consideration in this text of the need to quantify as much as possible outcomes and success rates of intervention strategies, the results of which derive an air of accountability for health professionals and bodies. It is therefore understandable that models such as the health belief model (Becker et al., 1997) and protection motivation theory (Rogers, 1983) are considered in terms of their outcome expectancy and outcome value. Biddle and Mutrie have identified the most relevant current

paradigms and models that are being applied in exercise behaviour change settings. They explore a number of questions that each paper on the subject seems unable to answer and yet have a plethora of generic terms and constituent elements. This is epitomised in their statement “that there is indeed a great deal of overlap between the various social psychological approaches used in contemporary physical activity and exercise research and perhaps more effort should be devoted to rationalising the key variables for future research” (p.135).

This text also considers the aetiology of illness and disease (both physical and mental) for clinical populations and provides guidelines for practitioners as well as recommendations for research. This again epitomizes the dual target readership that this text is written for. Following treatment modalities the final chapters explore interventions, applications and future directions. Clear aims are laid down here. As a vehicle to achieve these aims the framework of King (1991) is cited (p.257), which provides four levels for discussion of intervention strategies. This moves coherently across a range of factors from considering the individual intervention to the intervention at community level. Thus exploring “the most appropriate intra- and inter-personal climates” to encourage individuals to adopt and maintain exercise.

There are important lessons to be learnt in these book from a psychological perspective in terms of the way we instruct, guide, facilitate, counsel or merely help population groups to remove barriers, and be motivated in relation to physical activity. Indeed, the methods often used at initial consultations could, and should, be adjusted in response to the increasing body of evidence that now increases our awareness of the realistic mental challenge to change behaviour(s). Both publications conclude with some key questions with regard to how we apply the knowledge the fields of health and exercise psychology is providing.

Taken together, these volumes provide a valuable resource for those involved in the instruction and guidance of patients in settings where there may be a variety of the barriers to change to a lifestyle which increases physical activity. This may be in health care, health promotion, leisure provision, fitness centres and gyms or even youth clubs and schools. The clear distinction between ‘guidance’ and ‘instruction’ is a current debate whose place for discussion is not within these texts, but whose difficulties in application may be assisted with an appreciation of the evidence cited here. The descriptive and analytical approaches to facets of psychological motivation and adherence also provide a useful overview of current issues and thinking, and perhaps more importantly, a platform from which research can be developed. At the very least these books will provide a compilation of the evidence on physical activity and mental health, and the identification of issues and future challenges, to the professionals who have a valuable role to play in the advocacy of physical activity as a mental health intervention. At best, they will help in the identification and development of a common language related to the psychology of physical activity.

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