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REVIEW

The engagement pathway: A conceptual framework of engagement-related terms in weight management

James D. Nobles[a,*], Arnaldo Perez[b], Joseph A. Skelton[c], Nicholas D. Spence[d], Geoff D. Ball[b]

[a] *Centre for Active Lifestyles, Leeds Beckett University, Leeds, UK*
[b] *Department of Pediatrics, University of Alberta, Edmonton, Canada*
[c] *Department of Pediatrics, Wake Forest School of Medicine, Winston-Salem, NC, USA*
[d] *Department of Medicine, Harvard University, Cambridge, MA, USA*

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Summary Engagement denotes the extent to which, and how, individuals participate in weight management (WM) services. Effective WM services should generate meaningful outcomes *and* promote high participant engagement; however, research is predominantly focused on the former. Given that engagement is a poorly understood phenomenon, and that engagement-related concepts are often used synonymously (*e.g.*, dropout and attrition), the engagement pathway is hereby introduced. This pathway defines key concepts (*e.g.*, recruitment, adherence, attrition) and their relationships in the enrolment, intervention, and maintenance stages of treatment. The pathway will help researchers and practitioners better understand engagement-related concepts whilst encouraging greater conceptual consistency between studies.

Abbreviations: NICE, National Institute for Health and Care Excellence (UK); NIH, National Institutes of Health (USA); WM, weight management.

* Corresponding author.
E-mail address: j.d.nobles@leedsbeckett.ac.uk (J.D. Nobles).

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Introduction

Engagement is a complex and multifactorial phenomenon that is essential to the effectiveness of health services [1—3]. Health services must be designed to promote clinically significant health improvements *and* facilitate engagement [4—6]. Engagement denotes the extent to which, and how, individuals participate in an intervention or service [7]. In this respect, the term *engagement* encompasses a range of concepts in the delivery of health services, including treatment initiation, dropout, attrition, retention, and adherence [7]. Whilst the outcomes of interventions are dependent on the engagement of individuals (*i.e.*, patients, families, participants) and health care professionals, engagement — and the associated concepts — are poorly understood. This conceptual paper is written from the viewpoint of weight management (WM) programs or services (WM services used hereafter), but many concepts could be translated to health improvement services more broadly (*e.g.*, smoking cessation, cardiac rehabilitation, and physical activity) [1,2,8,9].

Engagement is important from multiple perspectives. For individuals with obesity, higher WM service attendance is associated with more favourable weight management [7,10,11]. Further, dropping out of a WM service could denote a failed weight loss attempt, which may be linked to feelings of frustration, discouragement, and learned helplessness. For researchers, attrition affects the internal- and external-validity of study findings [1,9,11], whilst for practitioners, participant engagement affects cost-effectiveness of service delivery, the time required for recruitment, and the accurate representation of service impact (*e.g.*, scale-up, reach, and dissemination) [11,12]. With that in mind, expert 'recruitment and retention' groups have been formed to counter the troublesome burden of low participant engagement in health services and research — *e.g.*, NIH Behaviour Change Consortium [1].

In general, research investigating engagement in WM services can be grouped into three categories, including predictors of engagement, reasons for engagement, and strategies to enhance engagement [12—15]. Evidence reviews have synthesised these three fields of research [4,12,13,15,16], but conclusions are limited due to inconsistent terminology and criteria for engagement-related concepts. In a recent call to action, Miller & Brennan [11] identified 27 obesity intervention studies and found no consistent operational definitions and/or criterion for attrition and program completion. This issue is further complicated due to overlap and close relationships between engagement-related terms, which often lead to terms (*e.g.*, attrition and dropout, completion and retention) being used interchangeably when frequently they refer to interrelated, but separate, issues.

Such methodological challenges also create difficulties when trying to determine WM service effectiveness. Exemplifying this point, Nobles et al. [17] undertook a sensitivity analysis to evaluate how different completion criteria influences the interpretation of outcomes in a pediatric WM service. In the first example, when completion was defined as attending the last program session [18], 50.5% of participants completed the service with a mean reduction of 0.14 units in standardised body mass index (BMI). In the second example, when a more stringent criterion was applied (attending all progam sessions [19], only 11.1% of participants completed the programme with a mean standardised BMI reduction of 0.20 units. Given that these two program outcomes are proxy measures of WM service effectiveness [20,21], the impact of adopting one criterion over another is highly relevant. Spence et al. [22], de Niet et al. [23] and Dolinsky et al. [24] also provide similar empirical examples for how different criterion for dropout affect the respective predictors. Therefore, to advance research, understanding and practice in this area,

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