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Original Article

Assessment of Processes of Change for Weight Management in a UK Sample

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Key Words
Obesity · Motivation · Processes · Validation · Methodology

Abstract
Objective: The present study aimed to validate the English version of the Processes of Change questionnaire in weight management (P-Weight). ***Methods:*** Participants were 1,087 UK adults, including people enrolled in a behavioural weight management programme, university students and an opportunistic sample. The mean age of the sample was 34.80 (SD = 13.56) years, and 83% were women. BMI ranged from 18.51 to 55.36 (mean = 25.92, SD = 6.26) kg/m^2. Participants completed both the stages and processes questionnaires in weight management (S-Weight and P-Weight), and subscales from the EDI-2 and EAT-40. A refined version of the P-Weight consisting of 32 items was obtained based on the item analysis. ***Results:*** The internal structure of the scale fitted a four-factor model, and statistically significant correlations with external measures supported the convergent validity of the scale. ***Conclusion:*** The adequate psychometric properties of the P-Weight English version suggest that it could be a useful tool to tailor weight management interventions.

Introduction

The prevalence of overweight and obesity is rising dramatically worldwide. The UK has some of the highest rates within the European region, with 68% of men and 64% of women over 15 years old categorised as overweight or obese [1]. The gold standard approach for obesity management is a combination of behavioural treatment with diet and physical activity

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Obes Facts 2015;8:43–53
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advice [2]. However, while interventions using this approach generally achieve weight loss in the short term, their long-term success is more limited, and weight regain is common [3, 4].

The transtheoretical model (TTM) [5, 6] offers a useful framework for enhancing the success of behaviour change interventions for weight management. The model hypothesises that there are both stages and processes. The five 'stages' of change represent a temporal motivational dimension through which people advance to acquire a healthy behaviour and then maintain it: pre-contemplation (PC), contemplation (C), preparation (Prep), action (A) and maintenance (M). The second dimension of the model is the processes of change, which are attitudes and behaviours that promote the advance through the five stages. For instance, people who are aware of having a weight problem will be more likely to engage in actions to lose weight than people who are not. Several studies have examined the relationship between the stages and processes of change, suggesting that the use of processes tends to increase during the first stages of change, reaching a peak in the A stage and then declining in the M stage [7–9]. In terms of weight loss, this would suggest that individuals who are taking action to lose weight will be using more processes of change compared to individuals thinking about or preparing to lose weight and individuals focused on weight maintenance.

Determining the individual's stage of change, and the corresponding processes that they are engaged in, may make it possible to tailor interventions by stage and increase the likelihood of success [10]. This could be especially relevant in weight management interventions, where meta-analytic studies indicate that weight loss is achieved in the short- and mid-term, but usually regained in the long-term [3, 4]. In this regard, the stages and processes model could be a useful framework to explain why weight management interventions focused on actions might not be effective in people who are at the earlier stages of change and consequently use fewer processes of change.

Several studies have sought to identify the processes of change involved in weight management, and models from three to twelve processes have been proposed in this setting [11–15]. This lack of consensus could be explained by the different tools that have been applied to measure both stages and processes of change in this context, which have not been evaluated for their psychometric properties and in most cases are simply adapted from the addictions setting. The need to consider the specific features of weight management before applying the TTM to this context has been highlighted [16–18].

Specific questionnaires to assess stages and processes of change in weight management setting have been developed based on the consensus of experts both in the obesity field and the TTM [19]. An initial validation of the Processes of Change questionnaire for weight management (P-Weight) measure in a Spanish population suggests that four processes of change are involved in this setting [11]. These processes are: i) emotional re-evaluation (EmR; emotional reactions to being overweight, and what will happen if they engage in weight management actions); ii) weight consequences evaluation (WCE; the individual's awareness of consequences that overweight has on his or her life, becoming aware that actually he or she has a weight problem); iii) weight management actions (WMA; those specific actions that people engage in when trying to manage their weight); iv) environmental restructuring (EnR; actions aimed to modify the individual's environment to promote weight management). The scale had adequate psychometric properties, and the relationship between the processes and stages of change (as determined by the Stages of Change questionnaire for weight management; S-Weight) fitted a quadratic trend, with the use of processes increasing during the first stages of change, reaching a peak in the A stage and then declining in the M stage, in line with the TTM. The P-Weight therefore has the potential to be a useful tool in the weight management setting; however, it is important to demonstrate its psychometric properties when used in other languages and populations.

Obes Facts 2015;8:43–53
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Table 1. Sociodemographic characteristics of the sample

	Community (n = 812)	Clinical (n = 275)	Total (n = 1,087)
Gender, % female	79.0	93.4	82.6
Age, years[a]	32.03 (12.88)	42.98 (12.14)	34.80 (13.56)
BMI[a,b], kg/m^2	24.79 (6.05)	29.22 (5.65)	25.92 (6.26)
Educational level, %			
Basic education completed	2.85	27.48	8.89
Secondary education completed	21.22	19.85	20.88
Higher education completed	75.93	52.67	70.22
Income, %			
<1 MW	42.6	16.0	35.9
1–2 MW	40.0	56.7	44.2
3–4 MW	12.0	22.4	14.6
≥5 MW	5.4	4.9	5.3

MW = Minimum wage.
[a]Cells represent means and standard deviations. [b]Self-reported BMI.

The main objective of the present study is to assess the psychometric properties of the P-Weight, English version, in a UK sample. The specific aims of this research are: i) to carry out an analysis of P-Weight items, ii) to assess the internal structure of the scale, iii) to evaluate its internal consistency, iv) to determinate the relationship between processes and stages of change, v) to assess the relationship between P-Weight scores and external measures of concerns with dieting to obtain evidence about the convergent validity of the scale, and vi) to assess P-Weight sensitivity to detect differences between clinical and community samples.

Participants and Methods

Participants

Participants were 1,087 adults from a mix of community and clinical settings. The clinical sample comprised 275 people (25% of the total) enrolled in a commercial weight management programme operating around the UK. The community sample (n = 812) was an opportunistic sample of UK adults, including students and staff from a local university and people registered on an online panel about weight management. Inclusion criteria to participate in this study were being at least 18 years old, not being pregnant at the time of assessment, and having a BMI ≥18.5 kg/m^2. Table 1 shows the sample characteristics.

Measures

Participants completed several self-reports, including socio-demographic characteristics and the English versions of the P-Weight and S-Weight [11, 19]. These questionnaires were simultaneously developed both in English and Spanish. Content validity of the scales was assessed based on consensus of experts [19], and an initial item refinement was carried out [11]. P-Weight is a 34-item questionnaire developed to assess the processes of change in weight management. It showed adequate psychometric properties in the Spanish community and clinical samples [11]; specifically, the internal structure fitted a four-factor model, and the internal consistency was adequate for all subscales as well as the total scale in terms of Cronbach's alpha and item-total correlations (ranging from 0.781 to 0.960 and from 0.322 to 0.865, respectively). Correlations with relevant external measures – 'drive for thinness' subscale from the Eating Disorder Inventory-2 (EDI-2) [20] and the 'diet' subscale of the Eating Attitudes Test-40 (EAT-40) [21] – ranged from 0.55 to 0.74, suggesting the scale also has good convergent validity.

S-Weight is a questionnaire that consists of five mutually exclusive items that aim to allocate participants to one of the five stages of change for weight management proposed by the TTM (PC, C, Prep, A, M). In

Obes Facts 2015;8:43–53
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the previous psychometric evaluation of the P-Weight, the relationship between the processes and stages of change fitted a quadratic trend, in line with the TTM. Specifically, people at the earliest stage (PC) used processes significantly less often than do those at the later stages. Also, the scores obtained in the P-Weight peaked in the A stage, before slightly declining in the last stage (M).

Participants also completed the 'drive for thinness' subscale of the EDI-2 [20] and the 'diet' subscale of the EAT-40 [21], which quantifies concerns about losing weight, to assess the convergent validity of the P-Weight. Previous studies support the adequate psychometric properties of these subscales in several settings [20–24].

Procedure

The study was approved by University College London (UCL) ethics committee. Potential participants were invited to take part either via an advert posted on a website (clinical sample) or via e-mail (community sample). Interested participants were asked to click on a link which took them to our web-based survey (developed using SurveyMonkey). Before entering, the survey participants were asked to confirm their eligibility and to give informed consent. Upon completion of the survey, participants were fully de-briefed and given the e-mail address of the researcher should they have any concerns or questions. All responses were anonymous and password protected.

Data Analysis

Descriptive, exploratory analyses and means comparisons were performed using the IBM SPSS Statistics 20 software, while AMOS 20 software was used to conduct the confirmatory factor analyses (CFA). A more detailed description of the analysis carried out to conduct the item refinement of the questionnaire and the cross-validation procedure and to test for internal consistency and convergent validity is given elsewhere [11]. However, it has to be noted that, as Floyd and Widaman [25] suggested, participants were randomly assigned to two groups in order to conduct a further exploratory and confirmatory factor analysis. Student's t test revealed no differences in terms of age ($p = 0.686$) and BMI ($p = 0.684$) between subsamples, and the chi-square test showed no statistical differences in the proportion of men and women in the two groups ($p = 0.807$).

Results

Item Analysis

Of the 34 items, two items were deleted ('There are no snack foods in my fridge or cupboards' and 'I have learnt to control my appetite') because they showed low corrected item-total correlations (0.27 and 0.03 respectively).

Internal Structure

Principal component analysis (PCA) was applied to half of the sample ($n = 541$) in order to explore the factorial structure of the 32-item questionnaire. Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity indicated the adequacy of the data for PCA (KMO = 0.955, $\chi^2_{(496)} = 11257.96$, $p < 0.0001$). Four factors were retained, explaining 60.88% of the variance. Communalities ranged between 0.241 and 0.792, and factor loadings were acceptable in all cases (table 2). The content analysis of the four-factor model revealed that those items belonging to the same factor were measuring similar content. When cross-loadings of the same item to different factors were found, items were allocated in a determinate subscale according to their content. Factors were also labelled according to their content, which differed slightly from the Spanish version. We obtained the following subscales: EmR (11 items), WCE (6 items), supporting relationships (SR; 5 items), and WMA (10 items). In the present study, P-Weight items were slightly different allocated to factors. Consequently, unlike in the Spanish version, a processes of change specifically focused on the importance of supporting relationships in weight management has emerged.

Obes Facts 2015;8:43–53
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Table 2. Factor loadings of P-Weight items to factors

		Communalities	Factor loadings			
			1. EmR	2. WCE	3. SR	4. WMA
Item 1	I think I should eat food with less fat	0.241	0.417	–0.118	–0.125	–0.110
Item 9	I am worried about gaining more weight	0.688	0.675	–0.086	0.009	0.207
Item 13	Losing weight would help me improve my relationships with others	0.684	0.524	–0.456	0.102	0.112
Item 17	Being overweight makes me feel bad	0.559	0.646	–0.148	–0.016	0.054
Item 21	I feel guilty when I overeat	0.645	0.620	–0.021	0.092	0.326
Item 23	If I lost weight, I would feel better about myself	0.762	0.852	0.033	–0.041	0.026
Item 25	I am not happy with my current weight	0.707	0.810	–0.180	0.044	–0.066
Item 27	If I lost weight, I would be happier	0.775	0.867	–0.051	–0.001	–0.014
Item 29	I feel good when I am able to control my eating habits	0.517	0.462	0.179	–0.267	0.208
Item 31	When I lose weight I feel proud of myself	0.726	0.627	0.162	–0.379	0.050
Item 34	I am committed to losing weight	0.671	0.441	0.125	–0.447	0.164
Item 4	I now realize I have a weight problem	0.743	0.445	–0.449	–0.172	0.091
Item 5	Society's view of obese people affects me emotionally	0.523	0.239	–0.465	–0.063	0.210
Item 8	My weight restricts my relationships	0.662	0.339	–0.556	0.108	0.208
Item 12	My current weight makes my daily life difficult	0.672	0.224	–0.675	–0.039	0.069
Item 16	My family and friends are worried about my weight	0.638	0.121	–0.689	–0.202	–0.041
Item 20	Most of my health problems are due to my being overweight	0.599	0.056	–0.593	–0.311	0.078
Item 24	I am aware that there are more and more people who encourage me to lose weight	0.644	0.079	–0.443	–0.533	0.024
Item 28	My family and friends praise me for not overeating	0.529	–0.138	–0.211	–0.623	0.218
Item 30	My family and friends congratulate me when I manage to lose weight	0.729	0.174	–0.080	–0.729	0.023
Item 32	People around me support me in trying to lose weight	0.792	0.017	–0.083	–0.863	0.002
Item 33	I have someone who listens to me when I need to talk about my being overweight	0.628	0.086	0.075	–0.792	–0.095
Item 2	I look for information about the types of food that could help me lose weight	0.532	0.382	0.024	–0.208	0.328
Item 3	I try to put food away to avoid nibbling	0.497	0.071	0.027	0.019	0.679
Item 6	I tell myself positive things to avoid overeating	0.555	–0.001	–0.119	–0.355	0.503
Item 7	I try not to have food in sight	0.586	0.111	–0.099	0.073	0.700
Item 10	When I really want to eat, I do activities to avoid it	0.555	–0.038	–0.030	–0.036	0.745
Item 15	I avoid places where people eat a lot	0.526	–0.022	–0.345	0.076	0.613
Item 18	I have learnt skills that reduce my desire to eat (e.g. distracting myself)	0.578	–0.074	0.168	–0.222	0.710
Item 19	When I am on a diet I avoid eating with people who I overeat with	0.514	0.011	–0.191	0.070	0.671
Item 22	I avoid buying high-calorie food	0.572	0.268	0.321	–0.033	0.595
Item 26	To avoid overeating I prefer eating at home or cooking my own food	0.431	0.262	0.180	–0.210	0.389
	Eigenvalues		13.58	2.38	2.01	1.45

EmR = Emotional re-evaluation; WCE = weight consequences evaluation; SR = supporting relationships; WMA = weight management actions.

Secondly, a CFA was carried out with the other half of the sample (n = 546). Considering that Mardia's estimate for multivariate kurtosis was 29.21, which indicated that data did not fit multivariate normality, unweighted least squares (ULS) estimation method was applied. Based on results found in the PCA, several models were proposed in order to confirm the internal structure of the questionnaire.

Obes Facts 2015;8:43–53
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Table 3. Goodness-of-fit indices obtained in the confirmatory factor analysis

	χ^2	d.f.	npar	GFI	AGFI	PGFI	NFI	SRMR
Model 1	3073.035	458	70	0.974	0.969	0.844	0.968	0.0693
Model 2a	3101.247	460	68	0.973	0.969	0.848	0.968	0.0695
Model 2b	3100.825	459	69	0.973	0.969	0.846	0.968	0.0695

χ^2 = chi-square test; d.f. = degrees of freedom; npar = number of parameters; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; PGFI = parsimony goodness-of-fit index; NFI = normed fit index; SRMR = standardised root mean square residual.

Table 4. Internal consistency indices of the P-Weight questionnaire obtained in both subsamples

	Number of items	Sample 1 (n = 541)			Sample 2 (n = 546)		
		α	I-T corr (range)	I-T corr (mean)	α	I-T corr (range)	I-T corr (mean)
1. EmR	11	0.925	0.391–0.831	0.694	0.914	0.433–0.797	0.668
2. WCE	6	0.882	0.634–0.775	0.696	0.872	0.629–0.741	0.675
3. SR	5	0.861	0.595–0.815	0.681	0.849	0.590–0.774	0.660
4. WMA	10	0.878	0.547–0.657	0.608	0.864	0.534–0.649	0.577
Total	32	0.955	0.402–0.787	0.616	0.952	0.441–0.774	0.602

I-T corr = Corrected item-total correlation; EmR = emotional re-evaluation; WCE = weight consequences evaluation; SR = supporting relationships; WMA = weight management actions.

Model 1. A measurement model in which items loaded on the four factors found in the previous analysis was proposed. The four processes of change were freely correlated. This model showed a good fit, based on the goodness-of-fit indices shown in table 3. Standardized regression weights ranged between 0.470 and 0.902, and correlations between factors were between 0.625 and 0.825. Considering that several studies have proposed the existence of second-order factors in the internal structure of processes of change questionnaires, the two following structural models were tested in order to assess relationships between latent variables.

Model 2a. This model considered the presence of a general second-order factor under which the four processes of change were gathered. Again, adequate goodness-of-fit indices were found (table 3), and the standardized regression weights of the four processes of change to the second-order factor ranged between 0.770 and 0.965.

Model 2b. In this structural model, first-order factors were gathered in two second-order factors: cognitive, and behavioural. The EmR and WCE subscales were gathered under the cognitive factor, whereas the SR and WMA belonged to the behavioural second-order factor. These higher factors were freely correlated. As shown in table 3, data of the present study also showed a good fit to this model. Standardized regression weights for the cognitive and behavioural processes ranged between 0.853 and 0.967, and 0.772 and 0.845, respectively. The correlation between the second-order factors was 0.994.

Finally, and considering that the three proposed models showed a good fit to data, a comparison between these nested models was carried out by means of the chi-square difference test. Model 1 showed a better adjustment compared to Model 2a ($\Delta\chi^2$ (2) = 64.212, $p < 0.0001$), and Model 2b ($\Delta\chi^2(1) = 63.79$, $p < 0.0001$). No differences between the structural models were found in terms of adjustment to data ($\Delta\chi^2(1) = 0.422$, $p = 0.516$). Consequently,

Obes Facts 2015;8:43–53
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Table 5. Analysis of variance and post hoc comparisons of P-Weight scores

	PC (n = 127) mean (SD)	C (n = 110) mean (SD)	Prep (n = 59) mean (SD)	A (n = 416) mean (SD)	M (n = 375) mean (SD)	F (4, 1087)	f	Tukey comparisons
1. EmR	27.99 (18.03)	60.54 (20.67)	65.99 (18.30)	69.31 (17.74)	59.97 (21.67)	110.71**	0.76	PC < C**, Prep**, A**, M**; C < A**; M < A**.
2. WCE	13.55 (12.84)	32.50 (26.88)	38.21 (28.55)	39.78 (24.91)	32.70 (24.29)	30.31**	0.39	PC < C**, Prep**, A**, M**; C < A*; M < A**.
3. SR	18.46 (19.48)	34.64 (21.36)	47.88 (21.84)	51.95 (23.73)	42.95 (23.97)	56.72**	0.51	PC < C**, Prep**, A**, M**; C < A**, M*; M < A**.
4. WMA	24.53 (16.63)	37.00 (16.14)	42.54 (14.37)	51.08 (17.79)	48.72 (18.56)	65.41**	0.54	PC < C**, Prep**, A**, M**; C < A**, M**; Prep < A*.

EmR = Emotional re-evaluation; WCE = weight consequences evaluation; SR = supporting relationships; [d]WMA = weight management actions; [e] f = Cohen's f effect size; *p < 0.05; **p < 0.0001.

the measurement model in which the four processes of change were freely correlated showed the best fit.

Internal Consistency

Internal consistency was assessed for the four processes of change derived from our internal structure analysis, and for the total scale in both subsamples. As shown in table 4, Cronbach's alpha was adequate for the WCE, SR and WMA subscales (ranging from 0.849 to 0.882) and excellent for the EmR processes of change and total scale (ranging from 0.914 to 0.955). Corrected item-total correlations were adequate for all items, since all of them reached values over 0.30 in both subsamples.

Relationship between Processes and Stages of Change

The stage of change participants were allocated to was measured by the S-Weight. It revealed that most participants were in stages A (38.27%) and M (34.50%), which suggests most were making efforts to manage their weight. Finally, 11.68% of the sample were in the PC stage; whereas 10.12% and 5.43% of participants reported being in the C and Prep stages, respectively.

The relationship between processes and stages of change was examined by analysis of variance (ANOVA; table 5). Scores obtained in the four processes of change were transformed to a 0 to 100 scale, in order to make them comparable. The ANOVA revealed significant differences in processes of change scores across the five stages (fig. 1). Specifically, large effect sizes were found in three of the four processes of change (EmR, SR and WMA), whereas a medium effect size was found in the WCE subscale. Tukey post hoc comparisons showed how processes of change scores were significantly lower in the first stage of change (PC), indicating that these participants were using less processes to manage their weight compared to participants in the later stages. Similarly, those in the C stage used significantly less processes compared to people in the A stage. Finally, participants in the M stage had significantly lower scores compared to those in the A stage in the EmR, WCE and SR subscales. Therefore, it seems that the use of processes of change stabilises and even decreases during the maintenance stage of weight management. Polynomial contrast analyses revealed a quadratic trend in the use the process of change across the stages ($p < 0.0001$).

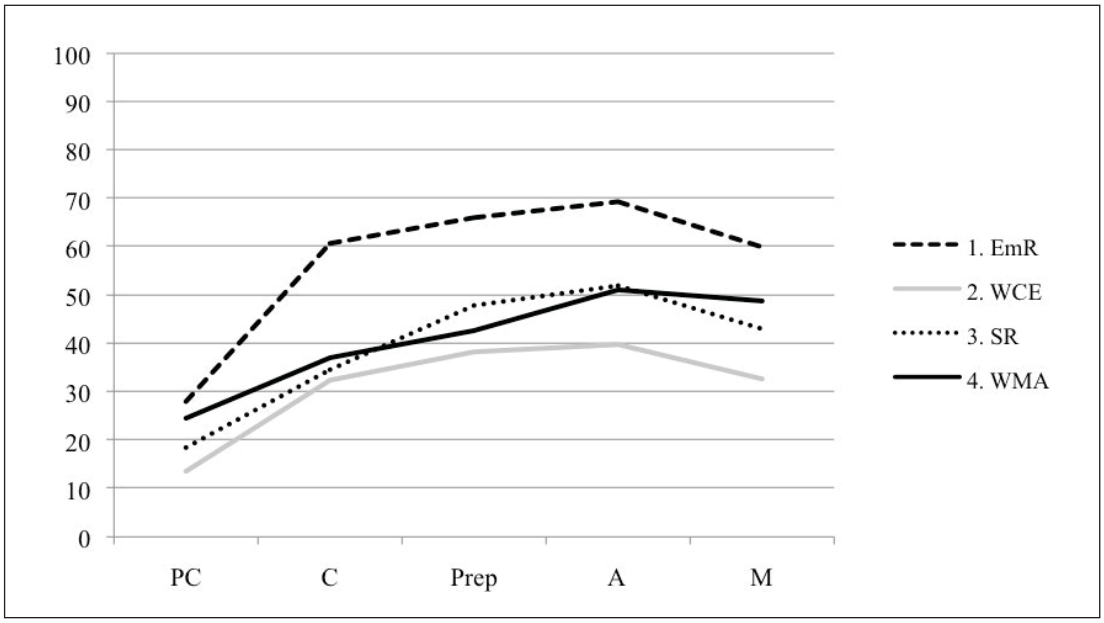

Fig. 1. Processes of change scores across stages of change. PC = Pre-contemplation; C = contemplation; Prep = preparation; A = action; M = maintenance; EmR = emotional re-evaluation; WCE = weight consequences evaluation; SR = supporting relationships; WMA = weight management actions.

Table 6. Pearson's correlations between processes of change and concerns about dieting[a]

	EmR	WCE	SR	WCA
Drive for thinness (EDI-2)	0.688	0.567	0.359	0.596
Diet (EAT-40)	0.617	0.506	0.303	0.594

EmR = Emotional re-evaluation; WCE = weight consequences evaluation; SR = Supporting relationships; WMA = weight management actions; EDI-2 = Eating Disorder Inventory-2; EAT-40 = Eating Attitudes Test-40.

[a]All correlations are significant at $p < 0.0001$.

Relationship of Processes of Change with Other Variables

Pearson's correlations for the relationships between the four processes of change and measures of concerns about weight are shown in table 6. All correlations between P-Weight scores and the two external measures were significant at the $p < 0.0001$ level (ranging from 0.303 to 0.688), which support the convergent validity of the processes of change questionnaire.

Sensitivity

Mean differences between clinical and community samples were calculated in order to assess whether the P-Weight was sensitive enough to detect differences between these groups. Results showed that statistically significant differences were obtained in all subscales, with participants in the clinical sample obtaining higher scores: EmR ($t_{(655.02)} = -11.70$, $p < 0.0001$), WCE ($t_{(1085.0)} = -10.70$, $p < 0.0001$), SR ($t_{(561.92)} = -20.86$, $p < 0.0001$), and WMA ($t_{(568.86)} = -12.66$, $p < 0.0001$). Finally, participants from the clinical sample were allocated at more advanced stages of change for weight management ($U = 30797.5$, $p < 0.0001$).

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Discussion

The psychometric evaluation in the present study represents a step forward in the validation of the stages and processes of change model in the weight management setting. Firstly, the descriptive analysis of the P-Weight English version enabled us to refine the questionnaire for use with a UK sample, obtaining a final version of 32 items that adequately measure attitudes and behaviours involved in weight management.

Secondly, the cross-validation analysis identified and confirmed that a model of four freely correlated processes of change was the most appropriate to explain behavioural change in weight management. Within our evaluation the following subscales of the P-Weight were obtained: EmR, WCE, SR and WMA. These results are in line with previous literature that suggest that a simpler model than that proposed in the smoking cessation setting [26] could be useful to explain the acquisition of several healthy behaviours, including physical activity, eating behaviours or weight management [14, 16, 27–30]. Similar to results shown in the CFA of the present study, two recent studies have confirmed that a processes of change model consisting of first-order factors shows the best fit in the physical activity setting [31, 32].

A slightly different factorial structure of the P-Weight was found in the present study compared to its previous application in a community and clinical Spanish sample [11]. Although a four first-order factor model was found in both studies, there were some differences in the internal structure of the questionnaire. First, two of the subscales found in the previous study (WMA and EmR) loaded on a single subscale (labelled WMA in the English version, as the items refer to specific actions taken to lose or maintain weight). Secondly, the items in the former version within the WCE subscale loaded on two different subscales; one assessing the social support for weight loss (SR) and the other assessing the effect of overweight on the individual's life in general (WCE). Finally, in the English version two items that belonged to the EmR in the Spanish version ('Society's view of obese people affects me emotionally' and 'I have someone who listens to me when I need to talk about my being overweight') were allocated to SR and WCE, respectively. The content analysis of this internal structure revealed a meaningful explanation of the processes of change involved in weight management. However, the four processes of change and the total scale had adequate internal consistency in both subsamples involved in the cross-validation analysis, and all items contributed to the internal consistency of the scale.

We also analysed the relationship between the processes and stages of change in our sample. In line with previous research, including the former evaluation of the P-Weight [9, 11, 33], we revealed a quadratic trend in the use of processes across the different motivational stages. People in the PC stage used fewer processes of change than people in the later stages, with the use of processes peaking in A before declining in the final M stage. The decline during the final stage suggests that. when individuals advance from trying to lose weight to trying to maintain it, they no longer invest substantial effort in processes of change.

The statistically significant relationship between the four subscales obtained in the P-Weight and the measures from EDI-2 and EAT-40 support the convergent validity of the scale. As expected, participants who obtained higher scores in the use of processes of change also obtained higher scores in these external measures.

The sensitivity analysis also supported the validity of the P-Weight, since statistically significant differences were found in all subscales between clinical and community samples. Similarly, the S-Weight showed statistically significant differences in the distribution of participants across stages, with participants from the clinical sample at more advanced stages for weight management.

TTM research and practice suggests that interventions developed to enhance behaviour change will likely be more effective if they are tailored to an individual's stage of change [10,

13, 34]. Consequently, in the weight management setting, measuring an individual's readiness to change prior to delivering an intervention may enhance the effectiveness of weight management interventions, particularly in the long term. Reliable and valid measurement instruments are therefore required to accurately assess processes and stages of change in this context. The adequate psychometric properties of the English version of the P-Weight in a UK sample suggest that it could be a useful tool in the weight management setting to identify an individual's motivational stage in relation to managing their weight. Tailoring interventions to promote the use of specific processes of change in order to encourage people to advance through the motivational stages could assist in weight management.

Finally, it has to be noted that the present study has several limitations. The first limitation is related to the sampling procedure. The non-probabilistic sample of this study does not represent the UK population. Consequently, results obtained in the present study should not be generalised to other conditions different from the characteristics of the present sample. Secondly, the self-reported BMI of participants could be biased and even affect their responses to the questionnaires. Lastly, it has to be taken into consideration that correlation analysis carried out between the P-Weight scores and those subscales from the EDI-2 and EAT-40 subscales has to be solely interpreted as an evidence of the convergent validity of the scale, and not as a measure for psychopathology.

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Disclosure Statement

The authors declare no conflict of interest.

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Obes Facts 2015;8:43–53
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