

## ORIGINAL PAPER

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# Assessing morale in community mental health professionals

## A pooled analysis of data from four European countries

Accepted: 15 December 2006 / Published online: 31 January 2007

**Abstract** *Background* While there is a need to assess morale in community mental health professionals, it still remains to be determined how to obtain and interpret data in a sound and meaningful way. The aims of the present study were to assess the extent to which levels of morale are sensitive to differences between professional groups and health care systems, and identify factors influencing morale across groups and settings. *Method* A literature search of electronic databases was undertaken to identify studies measuring morale in different groups of community mental health professionals. Data was subjected to a pooled analysis. Differences between groups and sites were tested using factorial ANOVA and respective effect sizes were estimated based on Cohen's [1] work. *Results* Data of four studies and a total of 723 professionals (from Austria, Germany, Italy and United Kingdom) were combined in a pooled analysis. Significant differences of morale levels were found between professional groups and study sites, and differences between professional groups varied significantly by study site. Effect sizes estimated for differences between particular groups of different health care systems ranged from small to large. Age was found to be a factor independently associated with morale. *Conclusions* Staff in community mental health care show substantial differences in morale levels depending on the professional group

and context. These differences can often be identified even if in sample sizes of only 30 participants per group. Levels of morale need to be established specifically for different professional groups and context, and age should be controlled as an influential factor. The findings show a discriminant validity of assessment instruments for staff morale in community mental health care, and underline the rationale for such assessments in research and routine care.

**Key words** staff morale – pooled analysis – community mental health care – burnout – job satisfaction – team identity – mental health professionals

### Introduction

In recent years, there has been growing evidence that working in mental health care is stress-provoking, which is related to the experience of additional emotional strain as compared to other occupational fields. Facing patients' psychiatric symptoms is experienced as particularly stressful [2]. This appears to be the case across the various professions employed in mental health, including psychiatrists [3], mental health nurses [4], psychologists [5], and social workers [6].

For staff employed in community mental health care, additional specific stressors such as increased workload or lack of resources have been suggested [7]. Community mental health staff have been found to show high levels of emotional exhaustion [8] and depersonalisation [9]. It has been further suggested that community-based staff perceive increased stress due to work overload [10] and experience lower psychological well-being as compared to ward-based staff [11]. This has led some authors to question the sustainability of community mental health services [12].

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A number of reasons have been suggested for why levels of burnout, job satisfaction, and team identity as indicators of morale may be assessed in community mental health staff, i.e. the impact of morale on staff recruitment and retention; the effect of morale on the quality of care; the optimal use of personal and team resources; and the significance of staff morale for reflecting positive and negative aspects of different models of mental health care [9]. In addition, data on staff morale may help identify needs for stress management and design appropriate interventions.

While morale may be measured in research and routine care, it is yet to be determined how to obtain and interpret data in an appropriate and meaningful way. A common approach is to classify means according to categories or thresholds from normative samples. In a recent systematic review by Richards et al. [13] levels of burnout of nursing staff working in in-patient wards, assessed on the Maslach Burnout Inventory [14], were judged to be low, average or high according to standardized scores obtained from normative samples. While Maslach et al. [15] defined normative categories for the burnout of mental health professionals, there are no normative data for mental health professionals concerning other instruments assessing aspects of morale such as the Minnesota Job Satisfaction Scale [16] or the Team Identity Scale [13], even though they are among the instruments most widely used in research on staff morale in mental health professionals. In any case, such normative samples are usually of limited significance because they are not specific for the professional groups and contextual features to be studied. Since differences between professional groups are expected to vary between contexts and health care systems, a better conceptual basis may be to compare professional groups within and between these contexts. This will make research findings more specific and inform the discriminant validity of the instruments used to measure morale. A meaningful comparison of morale among groups of community mental staff, however, requires determining empirically to what extent morale levels are sensitive to the context of the respective health care system and the professional background of staff. For designing a study on staff morale there should be data on the size of differences between groups that can be expected in practice and, subsequently, the sample sizes needed to detect them. There is also the question what socio-demographic characteristics and job features consistently explain variance in morale independent from professional group and context. Such factors should be controlled as potential confounders for the impact of professional identity and context features on morale.

These issues can be addressed by combining well-sampled studies on morale of different professional groups in different systems of community mental health care. Therefore, a pooled analysis of individual

datasets from studies identified in a literature search of computerized databases was conducted to assess the extent to which indicators of morale—i.e. burnout, job satisfaction, and team identity—are sensitive to differences between professional groups and places in different community mental health care systems and establish the general influence of socio-demographic characteristics and job features on morale. A pooled analysis was preferred to a quantitative summary of published data to use a consistent analytical model, control for confounding factors and, thereby, estimate more precisely effect sizes [17].

## Subjects and methods

### ■ Study selection and inclusion criteria

The pooled analysis was based on a literature search of the electronic databases MEDLINE, PSYCINFO, EMBASE, and CINAHL using the following inclusion criteria:

- (1) studies published in a peer reviewed journal in the English, German, or Italian language in the time period between 1995 and 2005;
- (2) studies from a European country;
- (3) studies investigating variables relating to job satisfaction, burnout, or team identity and employ well-validated scales;
- (4) studies distinguishing between specific professional groups, mental health service settings, and study sites;
- (5) studies with at least two professional samples of  $\geq 30$  per site; this was to consider sufficiently representative samples in line with the Central Limit Theorem [18];
- (6) availability of full datasets for a pooled analysis not only on the levels of morale, but also potentially influential factors.

The literature search was conducted using the search terms 'burnout', 'job satisfaction', 'team identity', and 'morale' combined with terms relating to mental health context and profession, namely 'mental health professional\*', 'community mental health\*', 'mental health service\*', 'psychiatr\*', and 'community psychiatrist\*'. The search was initially limited by the inclusion criteria (1). Title and abstracts were then screened and papers retrieved for more detailed evaluation applying inclusion criteria (2) to (5). Finally, inclusion criterion (6) was established by contacting the authors of studies meeting inclusion criteria (1) to (5).

### ■ Data analysis

The Statistical Package for Social Sciences (SPSS) for Windows release 12.0 [19] was used for all data analyses. In order to assess whether data from different studies could be combined, socio-demographic and job characteristics were compared using Pearson's chi-square tests, independent sample *t*-tests, and one-way Analysis of Variance (ANOVA) as appropriate. Significant effects of these characteristics on levels of morale were further evaluated by independent samples *t*-tests, one-way ANOVA (Tukey test), and linear regression analysis as a first step to identify potentially confounding factors of morale.

Factorial ANOVA was employed to test initially for differences between professional groups and, in turn, assess the extent to which these are sensitive to differences between health care systems whilst adjusting for confounders. Therefore, the modelling proceeded through several steps. First, the main effect of professional identity on morale was assessed. In a next step, main effects of study site and interaction effects of professional group by study site on morale were added to the model in order to assess how differences

**Table 1** Study characteristics of the four included studies on community mental health professionals

Study	Study sites	Sample size	Response rates	Research design	Outcome variables	Measures
Billings et al. [20]	UK (London)	$n = 301$	52–100%	Cross-sectional	Burnout, Job satisfaction	Maslach Burnout Inventory <sup>a</sup> [14], Minnesota Job Satisfaction Scale <sup>b</sup> [22], Job Diagnostic Survey [23]
Galeazzi et al. [21]	Italy (Modena)	$n = 60$	70–79%	Cross-sectional	Burnout, Job satisfaction, Team identity	Maslach Burnout Inventory <sup>a</sup> [24], Minnesota Job Satisfaction Scale <sup>b</sup> [22], Team Identity Scale [25]
Priebe et al. [9]	UK (London), Germany (Berlin)	$n = 189$	40–75%	Cross-sectional	Burnout, Job satisfaction, Team identity	Maslach Burnout Inventory <sup>a</sup> [24; 15], Minnesota Job Satisfaction Scale <sup>b</sup> [22], Team Identity Scale [25]
Swoboda et al. [16]	Austria (Styria/Lower Austria)	$n = 195$	51.9%	Cross-sectional	Burnout, Job satisfaction, Team identity	Maslach Burnout Inventory <sup>a</sup> [14], Minnesota Job Satisfaction Scale <sup>b</sup> [22], Team Identity Scale [25]

<sup>a</sup> The Maslach Burnout Inventory consists of three subscales, namely emotional exhaustion (reduction of emotional resources), depersonalisation (negative attitude to patients), and personal accomplishment (negative evaluation of oneself, particularly with regard to working with patients)

<sup>b</sup> Items of the Minnesota Job Satisfaction Scale can be further grouped into extrinsic (satisfaction with working conditions and rewards) and intrinsic (the extent to which the professionals feel their jobs fits their skills and needs) job satisfaction

between professional groups varied by the place of the study. Lastly, socio-demographic and job details, being likely to confound the relationship between professional identity, study site, and morale, were entered into the model as covariates. For post-hoc analysis of significant between-group effects, the Tukey test was used. Type IV sum of squares were used to account for empty cells. Significant interactions were further broken down using simple effects analysis. Findings were considered as statistically significant if the  $p$ -value was below or equal to 0.05. However, a liberal significance level of  $p < 0.10$  was set for the  $F$ -ratio of interaction effects.

Effect sizes  $d$ , defined as the difference between two groups divided by the pooled standard deviation [1], were obtained for significant differences between professional groups broken down by study site. The magnitude of effect sizes was classified according to Cohen's [1] categorisation as small- ( $d = 0.2$ ), medium- ( $d = 0.5$ ), and large-sized ( $d = 0.8$ ). For better comparability, effect size correlations  $r$  were transformed into effect sizes  $d$ .

## Results

Four studies [9, 16, 20, 21] met all inclusion criteria. Details are shown in Table 1. Data on psychologists of the study by Billings et al. [20] ( $n = 13$ ) and nurses by Swoboda et al. [16] ( $n = 9$ ) were excluded from the analysis because of small sample sizes. The pooled analysis, therefore, included a total of 723 community mental health professionals. Of these 322 (44.5%) were male, 399 (55.2%) female, and 2 (0.3%) did not indicate their gender. Furthermore, 41.6% of respondents were aged thirty-six to forty-five. On average participants were employed 10.3 years (s.d. = 8.2) in mental health services. Data were available for the professional groups of psychiatrists ( $n = 145$ ), nurses ( $n = 210$ ), social workers ( $n = 201$ ), psychologists ( $n = 38$ ), and 'others' ( $n = 129$ ). Response rates ranged from 40% [9] to 100% [20].

Comparisons between studies and study sites showed that for the two studies conducted in the UK [9, 20] differences only between age groups were significant ( $\chi^2 = 10.46$ ,  $df = 4$ ,  $p = 0.03$ ). These differences mainly related to a higher proportion in the

age category 36–45 years (54.8% vs. 38.1%) and a lower proportion in the age category 26–35 years (19% vs. 35.7%) for the studies by Priebe et al. [9] vs. Billings et al. [20]. Data of these two studies were combined representing the same community mental health care system. For the Team Identity Scale, data were available for a sub-sample of 431 subjects of the studies by Galeazzi et al. [21], Priebe et al. [9], and Swoboda et al. [16]. Subjects of this sub-sample did differ from the remaining subjects only in their distribution of years employed in mental health, with subjects of this sub-sample being significantly less years employed (mean = 9.4 (s.d. = 8.0) vs. mean = 11.7 (s.d. = 8.3),  $t = -3.77$ ,  $df = 708$ ,  $p < 0.001$ ).

Table 2 lists significant differences between professional groups for intrinsic and extrinsic job satisfaction, total burnout, emotional exhaustion, personal accomplishment, and team identity. These significant differences between professional groups were further specified by post-hoc analyses.

Differences between professional groups were not consistent across different health care systems. As shown in Table 3, interaction effects for professional identity and study site were statistically significant for extrinsic job satisfaction, total burnout, depersonalisation, emotional exhaustion, and team identity making the significant main effect of professional identity on morale disappear for these variables. Significant interaction effects of professional identity and study site on morale suggested that differences between professional groups depend on the respective study site.

Extrinsic job satisfaction scores of psychiatrists, nurses, and social workers differed significantly between Germany, the UK, and Austria. These groups also differed significantly from each other within each of those study sites. While there were no main effects of professional identity ( $F(4, 697) = 1.33$ ,  $p = 0.23$ ) and study site ( $F(3, 697) = 1.83$ ,  $p = 0.14$ ) on emo-

**Table 2** Main effect of professional identity on outcome variables using GLM (factorial design)

	Psychiatrists mean (s.d.)	Nurses mean (s.d.)	Social workers mean (s.d.)	Psychologists mean (s.d.)	Others mean (s.d.)	Overall mean (s.d.)	$F(df_M, df_R)$ (main effect)	$p$
<i>Minnesota Job Satisfaction Scale</i>								
General job satisfaction	70.4 (10.4)	69.9 (10.5)	67.9 (10.3)	69.9 (11.7)	71.1 (9.3)	69.6 (10.3)	2.31 (4, 710)	0.053
Intrinsic job satisfaction	45.0 (6.6) <sup>b</sup>	43.1 (6.6)	42.5 (6.5) <sup>b</sup>	44.4 (6.6)	43.1 (6.2)	43.3 (6.6)	3.54 (4, 706)	0.007
Extrinsic job satisfaction	21.4 (5.6) <sup>d</sup>	21.6 (4.9) <sup>c</sup>	20.4 (4.9)	18.5 (4.4) <sup>c, d</sup>	20.4 (3.4)	20.8 (4.8)	4.73 (4, 711)	0.001
<i>Maslach Burnout Inventory</i>								
Total burnout score	35.4 (13.9)	37.4 (17.5) <sup>f</sup>	39.6 (18.4) <sup>a</sup>	32.4 (13.5)	32.1 (14.7) <sup>a, f</sup>	36.5 (16.6)	4.62 (4, 678)	0.001
Depersonalisation	6.9 (5.0)	5.8 (5.8)	7.1 (6.7)	3.8 (3.5)	3.9 (3.6)	6.02 (5.7)	1.45 (4, 705)	0.215
Emotional exhaustion	18.0 (8.7) <sup>d, e</sup>	17.8 (10.3) <sup>f</sup>	18.3 (10.1) <sup>a, g</sup>	15.9 (8.7) <sup>d, g</sup>	16.0 (9.3) <sup>a, f, g</sup>	17.56 (9.7)	8.61 (4, 701)	<0.001
Personal accomplishment	37.5 (5.6) <sup>b, h</sup>	34.5 (7.6) <sup>h</sup>	34.1 (6.9) <sup>b</sup>	35.7 (6.1)	35.7 (7.6)	35.32 (6.9)	5.92 (4, 681)	<0.001
<i>Team Identity Scale</i>	58.9 (8.4) <sup>e, h</sup>	56.6 (9.1) <sup>c, f, h</sup>	57.1 (10.3) <sup>a, g</sup>	62.2 (7.8) <sup>c, g</sup>	64.2 (7.4) <sup>a, e, f</sup>	58.5 (9.3)	10.74 (4, 426)	<0.001

<sup>a</sup> The Tukey test shows a statistically significant difference between social workers and others

<sup>b</sup> The Tukey test shows a statistically significant difference between psychiatrists and social workers

<sup>c</sup> The Tukey test shows a statistically significant difference between nurses and psychologists

<sup>d</sup> The Tukey test shows a statistically significant difference between psychiatrists and psychologists

<sup>e</sup> The Tukey test shows a statistically significant difference between psychiatrists and others

<sup>f</sup> The Tukey test shows a statistically significant difference between nurses and others

<sup>g</sup> The Tukey test shows a statistically significant difference between social workers and psychologists

<sup>h</sup> The Tukey test shows a statistically significant difference between psychiatrists and nurses

tional exhaustion scores, these two factors showed a significant interaction effect.

Socio-demographic and job characteristics were assessed as factors affecting morale independently from professional identity and study site. First, the relationship between demographic and job characteristics and morale was considered. Men experienced

significantly higher extrinsic satisfaction than women ( $t(712) = 3.76, p < 0.001$ ). Significant differences in depersonalisation were identified between professionals of different age groups ( $F(4, 691) = 2.68, p = 0.03$ ), with mental health staff over 55 years scoring significantly lower on depersonalisation than those of either 36–45 years (Tukey test,  $p = 0.02$ ) or

**Table 3** Significant interaction effects for professional identity and study site on outcome variables using GLM (factorial design) and simple effects analysis ( $p < 0.10$ )

	Psychiatrists mean (s.d.)	Nurses mean (s.d.)	Social workers mean (s.d.)	Psychologists mean (s.d.)	Others mean (s.d.)	$F(df_M, df_R)$ (interaction effect)	$p$ -value
<i>Minnesota Job Satisfaction Scale</i>							
Extrinsic job satisfaction							
Germany	26.7 (5.7) <sup>a, b</sup>	26.3 (4.4) <sup>b</sup>	25.3 (4.4) <sup>b</sup>	–	–	2.56 (5, 703)	0.026
United Kingdom	23.3 (3.8) <sup>a</sup>	21.5 (4.1)	20.4 (4.1)	–	20.8 (3.1)		
Austria	18.4 (3.0) <sup>a</sup>	–	17.8 (3.9)	18.5 (4.4)	19.8 (3.9)		
Italy	15.8 (3.8)	16.6 (4.0)	–	–	–		
<i>Maslach Burnout Inventory</i>							
Total burnout score							
Germany	35.2 (13.2) <sup>b</sup>	30.3 (13.7) <sup>b</sup>	37.7 (13.3) <sup>b</sup>	–	–	2.55 (5, 670)	0.03
United Kingdom	36.8 (15.1) <sup>a</sup>	39.9 (17.6)	46.1 (21.3)	–	33.5 (14.6)		
Austria	28.0 (10.8)	–	31.8 (12.2)	32.4 (13.5)	29.6 (14.8)		
Italy	39.5 (12.8)	32.2 (18.0)	–	–	–		
Depersonalisation <sup>c</sup>							
Germany	5.7 (4.4) <sup>b</sup>	3.6 (3.6) <sup>b</sup>	5.7 (4.4) <sup>b</sup>	–	–	2.44 (5, 640)	0.03
United Kingdom	8.5 (5.7) <sup>a</sup>	6.5 (6.3)	9.8 (8.2)	–	4.1 (3.7) <sup>b</sup>		
Austria	4.4 (3.9)	–	4.4 (3.8)	3.8 (3.5)	3.6 (3.4)		
Italy	7.2 (4.0)	4.8 (4.9)	–	–	–		
Emotional exhaustion							
Germany	18.7 (8.6)	15.1 (7.5) <sup>b</sup>	17.4 (7.3) <sup>b</sup>	–	–	3.18 (5, 697)	0.008
United Kingdom	16.9 (8.8) <sup>a</sup>	19.0 (10.7)	21.6 (7.5)	–	17.1 (9.5)		
Austria	16.1 (6.5)	–	14.5 (7.8)	15.9 (8.7)	14.3 (8.9)		
Italy	21.2 (9.8) <sup>a</sup>	14.3 (9.4)	–	–	–		
<i>Team Identity Scale</i>							
Germany	63.4 (7.7) <sup>a, b</sup>	62.0 (7.1)	59.0 (8.3) <sup>b</sup>	–	–	4.37 (4, 419)	0.002
United Kingdom	58.9 (8.3) <sup>a</sup>	50.1 (7.7)	49.7 (12.1)	–	–		
Austria	62.9 (6.3) <sup>a</sup>	–	59.3 (9.0)	62.2 (7.8)	64.2 (7.4)		
Italy	50.9 (3.8)	53.9 (4.9)	–	–	–		

<sup>a</sup> Simple effects analysis shows statistically significant differences between professional groups within the same study site

<sup>b</sup> Simple effects analysis shows statistically significant differences between study sites within the same professional group

<sup>c</sup> Adjusted for age groups as covariate

46–54 years of age (Tukey test,  $p = 0.02$ ). Years employed in mental health were positively associated with extrinsic satisfaction ( $\beta = 0.09$ ,  $t = 2.29$ ,  $p = 0.02$ ,  $R^2 = 0.007$ ).

For age categories, significant differences in depersonalisation scores independent of professional identity and study site were found ( $F(4, 684) = 4.13$ ,  $p = 0.001$ , partial  $\eta^2 = 0.029$ ), with subjects in lower age categories showing higher depersonalisation scores than older subjects. The explained variance of depersonalisation by professional identity increased from partial  $\eta^2 = 0.059$  to  $\eta^2 = 0.065$  due to the inclusion of age group as covariate. Age group was also significantly associated with professional group stratified by study site (Germany  $\chi^2 = 17.43$ ,  $df = 8$ ,  $p = 0.03$ ; UK  $\chi^2 = 22.02$ ,  $df = 12$ ,  $p = 0.04$ ; Austria  $\chi^2 = 29.87$ ,  $df = 12$ ,  $p = 0.003$ ; Italy  $\chi^2 = 15.57$ ,  $df = 3$ ,  $p = 0.001$ ). For instance, in the UK, psychiatrists were less frequently represented in the age category of 55 plus (5.3%) than nurses (7.1%) while scoring significantly higher on depersonalisation.

Effect sizes for differences between professional groups broken down by study site ranged from small to large and varied between study sites. The magnitude of differences between professional groups was large for team identity scores of psychiatrists compared to both nurses ( $d = 1.1$ ) and social workers ( $d = 0.9$ ) in the UK. By contrast, effect sizes for differences in team identity between psychiatrists and nurses were medium in Italy ( $d = -0.7$ ) and small in Germany ( $d = 0.2$ ). Also, differences in team identity between psychiatrists and social workers were of medium magnitude in Germany ( $d = 0.6$ ) and Austria ( $d = 0.5$ ). For depersonalisation scores, a large effect size was found for psychiatrists versus others in the UK ( $d = 0.9$ ) as opposed to a small effect size for this difference in Austria ( $d = 0.2$ ). Similarly, the effect size for the difference in depersonalisation between social workers and others was estimated to be large in the UK ( $d = 0.9$ ) but small in Austria ( $d = 0.2$ ). Overall, these findings provide evidence that differences of substantial size can be identified for levels of morale.

## Discussion

The current study shows that measuring morale in community mental health professionals is a reasonable approach in that statistically significant differences of substantial magnitude can be identified between professional groups and health care systems. This appears to be the case even if small sample sizes are obtained for individual professional groups broken down by health care system. Furthermore, findings suggest that levels of morale need to be established specifically for individual professional groups and health care systems while age group, gender, and years employed in mental health services

should be controlled as potential influential factors of morale.

Some limitations have to be taken into account when interpreting the findings of the present study. First of all, results only apply to health care systems of four European countries, with most of the research on morale being conducted in the UK [26]. Therefore, it remains possible, if unlikely, that differences in morale are not dependent on differences between health care systems in poorer researched European countries. We used relatively conservative inclusion criteria, particularly with regard to the rigorous sampling strategy that were expected to be used by original studies, and the analysis was further limited by the availability of complete datasets. Thus, the finally included datasets do not include all studies on morale in mental health professionals that have been conducted to date (as for example identified by the systematic review of Edwards et al. [26]). Also, it is impossible to establish whether data of the included studies are representative for the given country and health care system or substantially influenced by specific local factors. The high proportion of assertive outreach team staff in the study by Billings et al. [20] may have impacted on the representativeness of the sample for the population of community mental health professionals working in London. Findings on psychologists need to be interpreted cautiously, as data on this professional group were only available in Austria. Variation in response rates could not be controlled for in this pooled analysis making results prone to selection bias. Since inclusion criteria were met only by cross-sectional studies, changes in morale over time could not be assessed. There is a scarcity of longitudinal studies in the field [11] which may in part be due to various practical, legal, and ethical problems of longitudinal studies on morale related to the confidentiality of data. Many professionals insist that their ratings are immediately anonymised thus making individual follow-ups impossible. Lastly, even though effect sizes were found to be large for some differences and statistically significant, some sample sizes were small and provided only limited statistical power. Thus, differences may have been under-estimated or over-estimated for specific comparisons.

Research on morale in mental health care has to date mainly been conducted on single groups of mental health professionals working in specific settings [3–5, 7] and has commonly been interpreted on the basis of standardized scores from normative samples. Using such a basic frame of reference has its limitations, and the approach of this study to consider differences between groups in similar settings may facilitate a more useful interpretation of findings. For example, Richards et al. [13] restricted their review to nursing staff and in-patient settings and found that most studies on morale of in-patient staff do not report high levels of burnout as compared to normative groups. Yet, for a realistic perspective on what morale

levels might be achieved in a given setting comparisons between professional groups and similar settings are likely to render more meaningful results.

Evidence from systematic reviews (e.g. Edwards et al. [26]) has been limited in that findings could not be generalized across different countries operating different health care systems. For mental health professionals in community care, only one study [9] compared levels of morale between different health care systems and provided preliminary evidence that differences between professional groups may be dependent on the context of national health care systems. The pooled analysis presented in this paper is consistent with these suggestions and based on a large total sample size drawn from four European countries. To our knowledge, this is the first study to provide evidence on effect sizes for cross-cultural and inter-professional differences as well as cross-cultural  $\times$  inter-professional interactions of staff morale in mental health care. While measures of effect sizes are now commonly required by publication manuals to determine the clinical significance of primary study findings (e.g. [27]), this has been largely omitted when interpreting findings on cross-cultural and inter-professional differences in staff morale. A critical change in the pattern of findings on differences between professional groups was observed when differences between the respective health care systems were taken into account. Hence, the instruments used by the included studies have good discriminant validity, i.e. they identify significant differences between different professional groups and health care systems. The findings further suggested that for some components of morale differences between professional groups may become apparent only when broken down by study site. The interaction effects between professional group and place indicate that general conclusions on which professional groups in community mental health care have higher or lower morale are not justified. Staff morale needs to be assessed specifically for each professional group and context. Hence, findings from the current study are not intended to provide 'new' category norms for morale in community mental health professionals. They do however show that comparative measurement of staff morale in community mental health care can yield significant and meaningful findings and illustrate the requirements for such a measurement.

Age, gender, and years employed were tested as factors potentially influencing morale independently from the impact of professional group and study site. Whilst gender and years in employment did not affect morale scores once professional group and study site were considered, age was found to have a consistent and independent influence on depersonalisation. The direction of the effect was in line with Moore and Cooper [28] suggesting that older mental health professionals tend to have lower levels of burnout.

In conclusion, future research and routine assessments in community mental health care should establish morale levels specifically for different professional groups and contexts, and age should be controlled for as a potential confounder. Some differences between groups are substantial so that samples of  $\geq 30$  are sufficient to detect them with statistical significance. Appropriate sampling frames and methods with reasonable response rates may be more important than mere sample sizes. Finally, the instruments used in the literature to assess staff morale appear sufficiently sensitive to identify significant differences between groups and have good discriminant validity in community mental health care.

■ **Acknowledgements** The authors would like to thank Gian-Maria Galeazzi, Karin Hoffmann, Sonia Johnson, and Hemma Swoboda for their permission to use the original datasets for the current study.

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