



High job satisfaction among orthodontic therapists

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O. Onabolu,¹ F. McDonald² and J. E. Gallagher³ present a UK workforce survey.

Background Orthodontic therapy is a new professional group within dentistry, about which little is known. This study aimed to conduct a population survey to examine the profile, working practices, motivation, experiences, career expectations and level of job satisfaction of orthodontic therapists in the UK. **Methods** Postal questionnaires were sent to all 417 GDC registered orthodontic therapists in the UK. The self-administered GMI questionnaire comprised questions on demography, motivation, job satisfaction and career aspirations. Univariate and multivariate analyses of the data were undertaken including exploratory factor analysis using SPSS statistical software (version 23 for Windows). **Results** A response of 48% (N = 200) was achieved, the majority of whom were female (95%), working in a mixed NHS/private practice (73.2%), in England (76.8%) and many had wider qualifications in dentistry, notably dental nursing (56.6%). Their mean age was 39 years. The five factors which made up 52% of the variability contained in the initial 23 motivating factors were: 'professional job', 'practical experience', 'knowledge and skills', 'healthcare and people' and 'business'. Reported levels of job satisfaction were high and the majority were routinely providing treatment on prescription. **Conclusions** Orthodontic therapists, a new professional group within dentistry, report high levels of job satisfaction and there is evidence that this role represents a career development option within dentistry for dental nurses in particular. This national study provides an insight into their working patterns and motivation.

Background

The first complete orthodontic workforce survey in the UK, in 2003,¹ identified a shortage in the orthodontic workforce as well as a geographic variation in the distribution of providers. This led to an increase in the number of orthodontic specialist training posts, an increase in dentists with a special interest in orthodontics, and the introduction of education and training of a new branch of dental professionals, orthodontic therapists. Orthodontic therapists are one of six groups of dental care professionals registered with the UK General Dental Council (GDC) who carry out certain parts of orthodontic treatment under the prescription of a dentist, normally an orthodontist. Although creation of orthodontic auxiliaries for hospital consultants was proposed in 1968,² it was not until November 1999 that the GDC approved a new group of dental care professionals, initially called orthodontic auxiliaries, who are now known as orthodontic therapists. They were to be selected from other registered dental care professionals and their training would be provided exclusively by specialist orthodontists.² The first orthodontic therapist course opened in 2007 at Leeds Dental School culminating in successful students gaining a Diploma in Orthodontic Therapy from the Royal College of Surgeons (England) in 2008.²

While the GDC and Orthodontic National Group websites suggest eight course locations, there appear to be seven active locations in the UK – Bristol, Leeds, London, Manchester, Preston, Warwick and Edinburgh – which offer an 11 to 12 month course in orthodontic therapy leading to the Diploma in Orthodontic Therapy,³ from either the Royal College of Surgeons of England or Edinburgh. The only exception is Warwick, which awards an internal diploma. The *Scope of*

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practice of orthodontic therapists as outlined by the GDC states that an orthodontic therapist must be trained, competent, indemnified and work under the prescription of a dentist.³

Orthodontic therapists are only allowed to see a patient unsupervised where the dentist writes a clear prescription which cannot be modified by the orthodontic therapist.⁴ The prescription should include the type of bracket to be used, any special instructions for placing the brackets, use of auxiliaries as well as the recall interval. Although the GDC *Scope of practice*³ does not state that the supervising dentist be present at all times, this is recommended by the British Orthodontic Society and Orthodontic National Group guidelines on the supervision of orthodontic therapists and where that is not possible, the supervising dentist should see the patient at least every other visit.⁴

As of December 2015, there were 41,095 registered dentists in the UK, of which about 9% of the listed titles had specialist status, 36% of whom are orthodontists (N = 1,385). Of the dental care professionals, 457 are orthodontic therapists, steadily increasing from 16 in 2008 to 457 by December 2015 and a ratio of one therapist for every three orthodontists.

Rationale for the study

Demand for orthodontic treatment is rising within the population, albeit the population of young people is not predicted to change markedly over the next few decades.⁵ There is a need to assess the current workforce in relation to current and future population needs and the potential for task shifting. The career progression, working practices and job satisfaction of dentists and dental care professionals have received increasing attention in the published literature.⁶⁻¹¹ This increased attention has mainly been due to the recognition of the role of dental care professionals in the dental team as well as a need to understand the influence of changing work patterns on service provision. Despite the increasing literature on dental care professionals in the UK, there is little information on the working practices and career expectations of orthodontic therapists in the UK. Research into their motivation and professional expectations can, therefore, provide vital information to inform education, policy and commissioning decisions.

This present study addresses a gap in the workforce literature. The aim of this study was to examine the profile, working practices, motivation, experiences, career expectations and level of job satisfaction of orthodontic therapists in the UK.

Method

The study sample comprised all 417 orthodontic

Table 1 Characteristics of orthodontic therapist respondents

Characteristics	Groups	N*	%*
Sex	Female	187	94.4%
	Male	6	3.0%
Age-group	<39 years	96	48.5%
	>39 years	96	48.5%
Ethnicity	White	180	90.0%
	Asian	5	2.5%
	Any other ethnic group	4	2.0%
	Mixed	2	1.0%
Hours worked	Full time	129	65.2%
	Part time	62	31.3%
	Other	4	2.0%
	>30 hours	142	71.7%
	<30 hours	53	26.8%
Current work location	England	152	76.8%
	Scotland	21	10.6%
	Wales	10	5.1%
	Northern Ireland	7	3.5%
	Other	4	2.0%
Region of England	North	55	27.8%
	South	36	18.2%
	Midlands and East	35	17.7%
	London	33	16.7%
System of work	Mixed (NHS & Private)	145	73.2%
	NHS	43	21.7%
	Private	7	3.5%
Setting of work	Specialist practice	141	71.2%
	Hospital	30	15.2%
	General practice	5	2.5%
	Salaried primary dental care services	4	2.0%
Patients seen	Mixed (NHS & Private)	127	64.1%
	NHS	61	30.8%
	Private	7	3.5%
Work only as orthodontic therapist	Yes	162	81.8%
	No	31	15.7%

*Some values all combined do not add up to 100% due to missing data

therapists registered with the UK General Dental Council at the end of June 2015.

The questionnaire instrument was based on the Gallagher Motivation Instrument (GMI) developed for dental students, which has been used in surveys on the career progression of dental practitioners and dental therapists.^{8,12,13}

The original questionnaire was constructed using qualitative data from focus groups of final year dental students at King's College London Dental Institute and vocational dental practitioners recruited nationally during the 2004/05 cycle and drawing on published literature.¹⁴ Questions regarding job satisfaction

were adapted from previous surveys on dental therapists and dental hygienists,^{10,11} and the demographic section was adapted from that used for dental therapy. Questions relating to the scope of practice were developed based on the 2013 guidelines.³ Adaptations were tested for face validity with orthodontic experts. The questionnaire was pilot tested on a small sample of student orthodontic therapists to check length, clarity and relevance of questions.

The questionnaire had both open and closed ended questions and included the following sections:

1. Motivation including their vision of their professional career and major influences affecting their choice of a professional career in dentistry
2. Current working practice
3. Job satisfaction
4. Career aspirations including how they would want their careers to progress
5. Demographics.

All responses from the questionnaire were completely confidential and non-attributable to the participants. Ethical approval for the study was obtained from the King's College London (KCL) Research Ethics Subcommittee for Biomedical & Health Sciences, Dentistry, Medicine and Natural & Mathematical Sciences (LRU-15/16-1607).

Dillman's total design survey method was employed to carry out the questionnaire survey to maximise the response.¹⁵ The questionnaire, introductory letter and prepaid return envelopes were posted out to all 417 orthodontic therapists in December 2015. Follow-up reminder letters were sent to non-responders one week later using second class mailing with replacement questionnaires and prepaid return envelopes sent at three and seven weeks after the initial mailing.

Statistical analysis

Statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 23.0 for Windows. Descriptive analyses were carried out to summarise the sample characteristics and baseline information. Differences between groups were examined using the Chi-squared test for linear trends across the rated questions.

Exploratory factor analysis was conducted to determine the principal latent determinants of the choice of a professional career in dentistry. This was undertaken using maximum likelihood and varimax rotation. An initial analysis was conducted to obtain Eigen values for each influencing data. Aggregate scores were derived from each principal determinant in order to rank their impact. A goodness-of-fit was applied

to each correlated factor. Linear regression models were used to assess factors influencing choice of a professional career in dentistry in terms of age.

Results

Characteristics of the respondents

Replies were received from 200 of the 417 registered orthodontic therapists giving a response rate of 48%. Two of the respondents did not answer the majority of the questions and were excluded from the sample giving a final sample of 198. The age of respondents ranged from 24 to 64 years with a mean of 39 (SD = 8.6) and mode of 37 years. A small proportion was aged over 50 years (14%, N =

including maternity leave.

The distribution of all the respondents was categorised based on the location of their primary place of work. Just over three-quarters (76.8%) currently work in England as orthodontic therapists, 10.6% in Scotland, with a minority in Wales (5.1%) and Northern Ireland (3.5%). There were five respondents who worked in both England and Wales while another two worked in both England and Scotland, and just one worked on the Isle of Man. Within England, more respondents reported working in the North (27.8%) compared with London (16.7%), Midlands and East (17.7%) or South (18.2%) region.

The majority of orthodontic therapists

'A NUMBER OF PROCEDURES WITHIN THE SCOPE OF PRACTICE, AND OBTAINABLE BY ADDITIONAL QUALIFICATION, WERE NOT ROUTINELY PERFORMED...'

27). The majority were female (94.4%, N = 187) and white (90%; N = 180), with the remainder from a mix of ethnic groups. There were six respondents of the eight male GDC registered orthodontic therapists, representing 75% of all male orthodontic therapists in the UK.

Overall, 81.3% of the respondents were born in the UK, with the remainder from the rest of Europe (7.6%) and the rest of the world (6.6%). Year of qualification ranged from 2008 to 2015, with 2009 being the modal year. Of the 195 respondents who answered the question on qualifications held, the majority (96.5%) reported holding a Diploma in Orthodontic Therapy. Four respondents did not indicate they had a Diploma in Orthodontic Therapy. Additional qualifications gained by some of the respondents included a Diploma in Dental Nursing (56.6%), Diploma in Dental Hygiene or Therapy (7.6%), Certificate in Dental Radiography (15.7%), Certificate in Orthodontic Nursing (11.1%) and Certificate in Dental Health Education (2%). One respondent held an HND in Advanced Orthodontic Dental Technology and, another, a Bachelor of Dental Surgery degree obtained overseas.

Current working practices

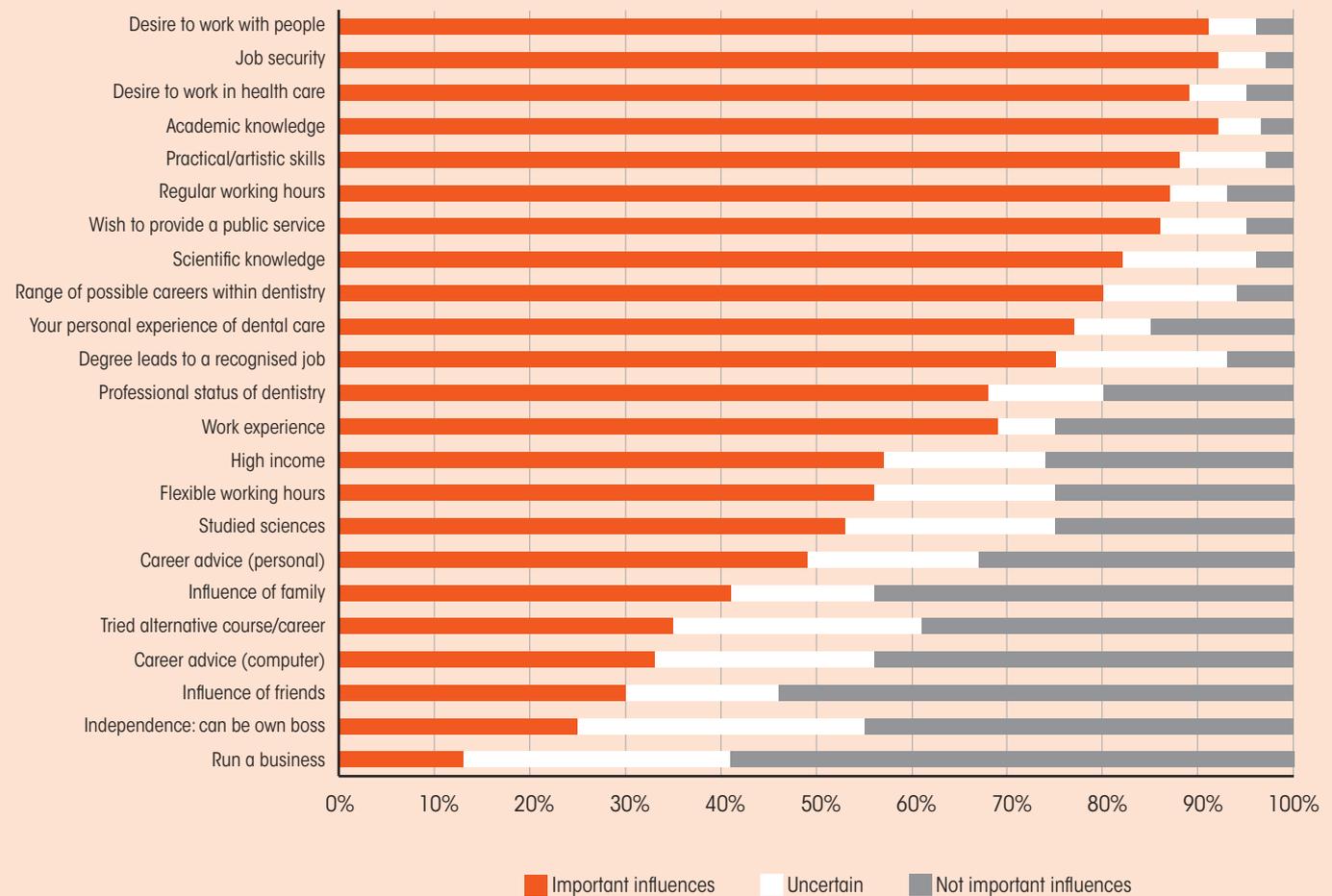
A total of 189 (95.5%) respondents were currently working as orthodontic therapists with the remainder on career breaks,

(73.2%) reported working in a mixed NHS/private practice, while 21.7% worked only in the NHS and 3.5% in private practice. Almost three-quarters (71.2%) worked in specialist practices. The remainder worked in hospital (15.2%), general practice (2.5%) and salaried primary dental care (2%). A small proportion worked in both salaried primary dental care and general dental practice (4.5%).

Almost two-thirds (64.1%) reported treating both NHS and private patients while the remainder treated only NHS (30.8%) and private patients (3.5%).

On average, respondents reported working 32 hours per week (mode = 37.5 hours; range = 4–45 hours). Part-time work was defined as working less than 30 hours per week with the majority (65.2%) working full-time, with the remainder working part-time (31.3%) or flexibly (2%) over a bi-monthly or monthly period. Most of the respondents worked only as orthodontic therapists (81.8%), with almost one in five holding other roles: as dental hygienists (N = 6), dental therapists (N = 2), dental nurses (N = 6), practice managers (N = 6), tutors (N = 7), a dental technician (N = 1) and both a dental hygienist and a dental therapist/tutor (N = 3).

Based on the type of establishment, 69.8% (N = 30) of the respondents who undertake only NHS treatment worked in hospital; they were mainly female, working full time and in

Fig. 1 Factors influencing the choice of professional career in dentistry by orthodontic therapists

England. This was similar to the distribution of responders working in mixed NHS/private practice. All the responders who work in private practice were female, worked full time and were in England (Table 1).

Responses on selection of a professional career in dentistry

A 'desire to work with people' (88.4%), 'job security' (88.4%), 'a desire to work in healthcare' (87.4%), 'academic knowledge' (87.4%) and 'scientific knowledge' (87.4%) were the top motivating factors in choice of a professional career in dentistry.

Participants were invited to select a single major influence on their decision to choose a professional career in dentistry. The single major influence was reported as 'your personal experience of dental care' (15.6%) followed by 'desire to work in health care' (15%) and 'desire to work with people' (12.2%) (Fig. 1).

Factor analysis

The maximum likelihood factor analysis using varimax rotation resulted in five factors with Eigen values above 0.97 and in combination

explained 52% of the total variability contained in the 23 item questions relating to the professional choice of a career in dentistry as follows: first, 'professional job factor' (20.5%); second, 'practical experience factor' (15%); third, 'knowledge and skills' (7.2%); fourth, 'healthcare and people factor' (4.9%); fifth, and finally, 'business' (4.2%) (Table 2).

Table 3 shows multiple linear regression models for these five factors in terms of age of the respondents. Job security, regular working hours and high income were considered the main influential determinants for the professional job and influence factor and the dominant motivating influence. The model was adjusted for age and although no statistical association was found, 'professional job' factor ($P = 0.06$) and 'business' factor ($P = 0.08$) were approaching significance as influential factors in career choice.

Clinical procedures carried out by orthodontic therapists

Orthodontic therapists' roles in relation to clinical procedures were explored with respondents identifying the level of supervision

received for the different procedures they carry out. The majority of clinical procedures are carried out under a written prescription of a dentist, but unsupervised. Common orthodontic procedures such as 'fit orthodontic separators' (75.8%), 'place orthodontic brackets' (72.7%), 'fit orthodontic bands' (70.7%), 'take impressions' (70.2%) and 'removal of fixed appliances' (68.2%), were the main procedures carried out unsupervised, but with a written prescription. 'Carrying out emergency procedures' (59.6%), 'oral hygiene instructions and diet advice' (43.9%) and reporting that they 'keep full and accurate patient records' (33.8%) were all procedures carried out unsupervised with no written prescription. A small percentage (1.5%) reported fitting bonded retainers and adjusting arch wires unsupervised and with no written prescription. A number of procedures within the scope of practice, and obtainable by additional qualification, were not routinely performed: only a small number of respondents reported that they routinely applied fluoride varnish (11.6%), poured and trimmed study models (16.2%), removed sutures (16.2%) and fitted face bows and headgear (20.7%) (Table 4).

Table 2 Factor analysis: influences on professional career in dentistry reported by orthodontic therapists

	Factors:				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	Professional job	Practical experience	Knowledge and skills	Healthcare and people (4.9%)	Business
Career advice (computer)		0.850			
Career advice (personal)		0.820			
Work experience		0.604			
Personal experience of dental care		0.438			
Studied sciences		0.424			
Tried alternative career course		0.335			
Job security	0.623				
Regular working hours	0.616				
High income	0.606				
Professional status of dentistry	0.517				
Flexible working hours	0.486				
Influence of family	0.467				
Influence of friends	0.409				
Range of possible careers within dentistry	0.385				
Academic knowledge			0.972		
Scientific knowledge			0.712		
Practical/artistic skills			0.560		
Degree leads to a recognised job			0.311		
Desire to work in health care				0.860	
Wish to provide a public service				0.707	
Desire to work with people				0.650	
Run a business					0.806
Independence: can be own boss					0.804

Job satisfaction

The level of job satisfaction with work was assessed using a 7-point Likert scale from 'extremely dissatisfied' (score – 1) to 'extremely satisfied' (score – 7) covering questions exploring their working conditions, remuneration and hours of work. The overall level of job satisfaction was high from the respondents with 71.2% rating their job satisfaction as very satisfied or extremely satisfied. The top five satisfying influences were 'your colleagues and fellow workers', 'amount of variety in job', 'physical working conditions', 'hours of work' and 'opportunity to use your abilities'. The main dissatisfying influences were their remuneration and not being given recognition for good work. The

majority of orthodontic therapists (74.3%) indicated being supported to keep-up-to-date with developments in the field. There was no difference in job satisfaction between males and females or between older and younger respondents (Fig. 2).

Career aspirations

Opportunities for training and continued professional development (85.8%), availability of a job (84.8%) and proximity to family (80.5%) were top influencing factors that might influence the decision on where respondents might want to work. These factors were significantly important for both males and females and there was no difference in their response rates. Proximity to training school, rural area, urban

area and affluent area with opportunity to undertake private care were not important influencing factors (Fig. 3).

Financial stability (80.8%), work/life balance, (71.7%), gaining professional experience (70.2%) and working toward achieving career goals (61.1%) were the most influential factors when making decisions about their professional career.

Discussion

This study shows that the orthodontic therapists responding to this survey have a high degree of job satisfaction and that the majority deliver much of their scope of practice, with one in five combining this with another role in dentistry. They report being motivated to pursue a career

Table 3 Linear regression models for the five principal factors that motivate orthodontic therapists to pursue a professional career in dentistry

Factor 1: Professional job factor								
Coefficients ^a								
		Unstandardised coefficients		Standardised coefficients		95.0% Confidence interval for B		
							Upper bound	
1	(Constant)	-0.606			0.056	-1.229	0.016	
	Age	0.015		0.155	0.056	0.000	0.031	

^a Dependent variable: professional job

Factor 2: Practical experience factor								
Coefficients ^a								
		Unstandardised coefficients		Standardised coefficients		95.0% Confidence interval for B		
							Upper bound	
1	(Constant)	-0.051			0.885	-0.743	0.641	
	Age	0.001		0.014	0.865	-0.016	0.019	

^a Dependent variable: practical experience

Factor 3: Knowledge and skills factor								
Coefficients ^a								
		Unstandardised coefficients		Standardised coefficients		95.0% Confidence interval for B		
							Upper bound	
1	(Constant)	0.120			0.743	-0.601	0.840	
	Age	-0.004		-0.034	0.676	-0.022	0.014	

^a Dependent variable: knowledge and skills

Factor 4: Healthcare and people factor								
Coefficients ^a								
		Unstandardised coefficients		Standardised coefficients		95.0% Confidence interval for B		
							Upper bound	
1	(Constant)	0.446			0.187	-0.219	1.111	
	Age	-0.012		-0.112	0.167	-0.028	0.005	

^a Dependent variable: healthcare and people

Factor 4: Business factor								
Coefficients ^a								
		Unstandardised coefficients		Standardised coefficients		95.0% Confidence interval for B		
							Upper bound	
1	(Constant)	-0.582			0.085	-1.246	0.081	
	Age	0.015		0.145	0.075	-0.002	0.032	

^a Dependent variable: business

Table 4 Clinical duties performed by orthodontic therapists

Procedure	Unsupervised (with written prescription)		Under supervision		Unsupervised (no written prescription)*		Procedure not undertaken	
	No	%	No	%	No	%	No	%
Fit orthodontic separators	150	75.8%	12	6.1%	1	0.5%	10	5.1%
Place orthodontic brackets	144	72.7%	16	8.1%	1	0.5%	1	0.5%
Fit orthodontic bands	140	70.7%	21	10.6%	0%		13	6.6%
Taking impressions	139	70.2%	5	2.5%	15	7.6%	0%	
Remove fixed appliance and orthodontic	135	68.2%	28	14.1%	2	1%	1	0.5%
Insert removable appliances	128	64.6%	26	13.1%	5	2.5%	3	1.5%
Fit bonded retainers	127	64.1%	19	9.6%	3	1.5%	19	9.6%
Insert, adjust and remove archwires	123	62.1%	25	12.6%	3	1.5%	2	1%
Select and place orthodontic auxiliaries	120	60.6%	20	10.1%	13	6.6%	0%	
Taking clinical photographs	113	57.1%	7	3.5%	28	14.1%	20	10.1%
Taking intra and/or extra oral radiographs	108	54.5%	11	5.6%	4	2%	56	28.3%
Keep full and accurate patient records	67	33.8%	15	7.6%	66	33.3%	2	1%
Oral hygiene instructions and diet	54	27.3%	7	3.5%	87	43.9%	1	0.5%
Carry out emergency procedures	31	15.7%	14	7.1%	118	59.6%	2	1%
Take occlusal records including orthognathic	23	11.6%	25	12.6%	1	0.5%	136	68.7%
Suture removal	18	9.1%	11	5.6%	3	1.5%	153	77.3%
Fit facebows and headgear	17	8.6%	23	11.6%	1	0.5%	149	75.3%
Apply fluoride varnish	17	8.6%	4	2%	2	1%	166	83.8%
Carry out IOTN screening	15	7.6%	34	17.2%	7	3.5%	130	65.7%
Pour and trim study models	12	6.1%	4	2%	16	8.1%	191	79.8%

*Procedures currently not legal for orthodontic therapists to perform without a written prescription. Some values all combined do not add up to 100% due to missing data

in dentistry by similar influences to dental and dental hygiene-therapy students, with the majority working full time and as orthodontic therapists, although a small minority combine this with other roles in dentistry. The main limitation of this study is the relatively low response rate, which may affect the generalisability of the results and, as such, the findings should be interpreted with care. Further research, particularly qualitative research, would be helpful to explore professional roles and career development in depth.

Motivation

This study has highlighted the underlying factors that motivate orthodontic therapists to pursue a career in dentistry. A similar range of items appears to influence the motivation to pursue a professional career in dentistry with orthodontic therapists as with dental students and dental nurses.^{8,16}

The single major motivational influence of 'your personal experience of dental care' reported by orthodontic therapists should

be interpreted with care. Respondents may have been referring to their experience working within the dental environment as dental care practitioners, as opposed to their experience undergoing dental treatment. All the respondents were registered dental care professionals who had worked in the dental environment for a number of years before becoming orthodontic therapists. This section on motivation was the same as that from the GMI which was developed for final year dental students,⁸ who would more likely indicate their personal experience of having dental treatment as a motivating factor to study dentistry as they would have had little personal experience in dentistry before starting their course.

Professional job and influence factors such as job security, regular working hours and high income reported here are similar to influences reported by the study on final year dental students in the UK,⁸ and around the world.^{17,18} The high response for a desire to work in healthcare, with people and a wish to provide a public service are all healthcare and people

factors, which appear to suggest an altruistic element by the respondents. This is similar to what has been reported in relation to dental students in the UK and Malaysia.^{8,18}

Clinical duties

The majority of the respondents responded that they perform most of their clinical duties either under direct supervision of a dentist or unsupervised with a written prescription. This is in line with good clinical practice. As expected, most of the clinical procedures reported to be carried out routinely by the respondents are the common orthodontic procedures of placing and removal of fixed appliances, adjusting orthodontic appliances, impression taking and placement of separators. A minority indicated that they carry out certain procedures unsupervised and with no written prescription. It can be argued that carrying out emergency procedures without supervision and under no written prescription falls under the remit of their scope of practice to make an

Fig. 2 Levels of job satisfaction as reported by respondents

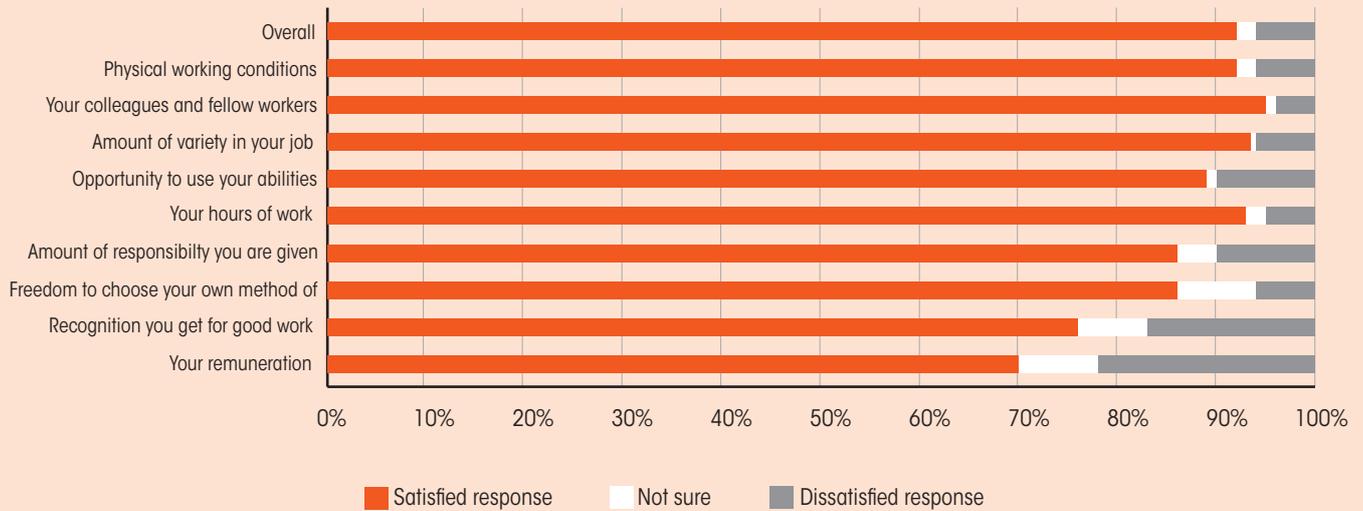
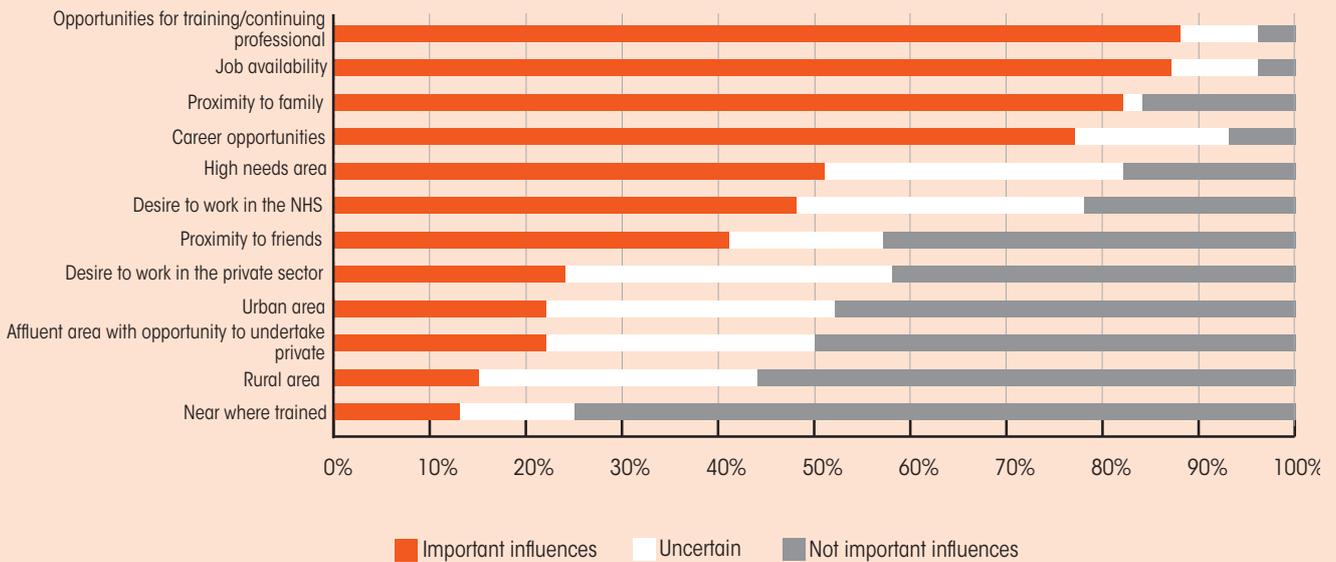


Fig. 3 Perceived influences on decision on where responders work



appliance safe in the absence of a dentist. For other procedures outside emergency procedures, it could not be determined if those respondents misinterpreted how to respond to the question or if they do carry out clinical procedures unsupervised with no written prescription. The questionnaire was anonymous so it was not possible to follow up on these respondents to explore this further. This finding of working outside the scope of practice is, however, similar to that reported in dental therapists.¹¹ Only a small proportion of the respondents indicated that they apply fluoride varnish (11.6%, N = 23) and although

it requires an additional qualification, it may be a skill worth acquiring as many of their patients are young people who may be at an increased risk of caries and may benefit from this preventive measure if they are not attending their general dental team on a regular basis. This is an area worth further exploration, particularly given the importance of evidence-based prevention.¹⁹

In the four respondents who did not indicate possessing a Diploma in Orthodontic Therapy, this is most likely an omission on the part of the respondents, as they would need one to practise in the UK.

Job satisfaction

The level of job satisfaction expressed by the respondents is high. Studies in the UK and abroad suggest that a large proportion of dental professionals are satisfied with their career. The high level of satisfaction seen here is higher than that reported in dental therapists and hygienists in the UK with reported values of 58% and 52% respectively.^{10,11,19} These groups are comparable to this sample population as they are all dental care professionals with a high proportion of females as demonstrated by our data. However, dental practitioners expressed

lower levels of job satisfaction than dental health practitioners, particularly the female dentists.^{20,21}

A small proportion of the respondents indicated a low level of satisfaction with their remuneration. This is slightly surprising as most of the respondents work in specialist practices on the high street and it would be expected that the remuneration in specialist practices would be higher than that in hospitals. It would be interesting to see if there was any difference in geographic location of the respondents who indicated a lower satisfaction for their remuneration. This may have implications on the geographic distribution of orthodontic therapists as well as having implications for workforce planning.

Career aspirations

Orthodontic therapy appears to represent an important area of career progression among dental nurses, with a large proportion of the respondents indicating that they hold a diploma in dental nursing. Dental nurses are a vital member of the dental team and comprise 51% (N = 54,209) of the registrants on the dental register.²² In a study on trainee dental nurses in the UK, many of the trainees expressed a strong interest in professional development within dentistry including a desire to become dental hygienists or therapists in the future.¹⁵ With the establishment of orthodontic therapy in the UK, there is another career progression pathway for this important group of dental care professionals. Given the large proportion of respondents that indicated an interest in pursuing further professional training, regular continuing education and training may serve as an incentive to keep job satisfaction high. This professional development within UK dentistry, which should be explored in future research into its contribution to oral healthcare as well as professional careers, may provide a model for other countries to follow.

Conclusion

This study contributes to the literature on the orthodontic workforce as it is the first of its kind to be conducted on orthodontic therapists in the UK. It provides insight into the demographics, motivation, working practices, job satisfaction and career aspirations of orthodontic therapists. Despite the limitations of the study, this is important analysis of an emerging workforce and to the authors' knowledge, other countries have limited training for orthodontic therapists when compared to the numbers of specialists. Many countries informally use dental care professionals to carry out some orthodontic tasks. The results of this survey may have implications for the development of career

progression pathways for orthodontic therapists and other dental care professionals, and inform orthodontic workforce planning processes.

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