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Student nurses' career preferences for working with people with dementia: A longitudinal cohort study

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Research article

Student nurses' career preferences for working with people with dementia: A longitudinal cohort study

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A B S T R A C T

Background: Internationally there are too few suitably skilled registered nurses to meet the demands for dementia care. Research has established low preferences in undergraduate nursing students for working with older people. However, there is limited research on preferences for dementia care. Understanding career preferences is one component of ensuring future workforce capacity.
Objective: To assess student nurses' preferences during undergraduate training in relation to working with people with dementia.
Methods: Data from a longitudinal survey collected at two UK universities were analysed ($n = 488$). Measures included career preferences, demographics, participation in a dementia educational intervention, and measures of attitude, knowledge, and empathy to dementia. Open text responses were also included to explore the students' reasons for their preferences.
Results: The preference for working with older people and people with dementia was low and decreased during training. A linear regression analysis supports a strong relationship of preferences with attitudes to dementia. Content analysis of students' reasons for their preferences found that perceived difficulty and lack of confidence contributes to the negative evaluation of working with people with dementia.
Conclusion: Undergraduate nursing education needs to continue to review its contribution to preparing the dementia workforce and act to support positive attitudes to working with people with dementia across nursing specialties.

1. Introduction

1.1. Background

The prevalence of dementia is rapidly increasing (Prince et al., 2013), with healthcare systems internationally unprepared to meet the demand for care generated (Australian Government Department of Health, 2015; Chow et al., 2018; Department of Health, 2009; Health Labor and Welfare Ministry, 2015). An important component of this response is building the capacity of the future workforce (Alzheimer's Disease International, 2019; World Health Organization, 2017).

Research has established a low preference for working with older adults in undergraduate nurses (Garbrah et al., 2017; Neville et al., 2014). However, less is known about preferences for working with people with dementia (Hebditch et al., 2020). Profiles of preferences in relation to older adults have been studied using preference ranking measures (Che et al., 2017), including studies in Australia (Stevens, 2011), China (Xiao et al., 2013), and the USA (King et al., 2013). However, there are few longitudinal or UK-based studies for preferences towards working with older adults or dementia. Worryingly, studies suggest preferences towards working with older adults decrease during undergraduate training (Gould et al., 2012; Happell and Brooker, 2001;

Lee et al., 2006; McCloskey et al., 2020; Stevens, 2011; Zisberg et al., 2015). Undergraduate training[1] is an influential time in preference development and the effect of training appears to be to put people off working with older people.

Possible factors associated with preferences for working with older people are wide-ranging and complex and include demographics, experiences before and during education, educational interventions, attitudes and knowledge and perceptions of characteristics of the work and patients (Garbrah et al., 2017; Hebditch et al., 2020; Neville et al., 2014). Only one study has explored dementia preferences specifically; McKenzie and Brown (2014). Student age and positive ageism were identified as possible factors; however, the focus of the study was ageism and influence of an educational placement with older people rather than attitudes to dementia and/or dementia educational interventions (McKenzie and Brown, 2014). Qualitative work on dementia educational interventions indicates a positive influence (Goldman and Trommer, 2019; Jefferson et al., 2012). Given the consistent evidence for the positive influence of educational interventions on preferences for working with older people, there is potential for this approach to encourage working with people with dementia.

1.1.1. The rationale for this study

To encourage the growth of a competent, informed and dementia-positive nursing workforce, we need to understand the preferences of nursing students to work with people with dementia so that we can develop education that enables this. We completed this study to address this gap in the evidence base. To assess student preferences of working with dementia and older adults, a modified career ranking scale was included in the evaluation of Time for Dementia (TFD) a dementia education intervention (Banerjee et al., 2017). TFD is an educational programme where undergraduate healthcare students are paired with a family affected by dementia and visit them five times over two years. Through these relationships, students develop skills and positive understanding and attitudes to dementia (Banerjee et al., 2021; Daley et al., 2020; Grosvenor et al., 2021). TFD included intervention groups who participated in the programme and contemporaneous comparison groups who did not. This study explores data from this study, to assess the profiles of preferences longitudinally and possible influencing factors.

1.2. Objective

To assess student nurses' preferences during undergraduate training in relation to working with people with dementia.

1.3. Research questions

1. How popular is working with patients with dementia and older adults and do these preferences change over undergraduate training?
2. What factors are associated with a preference for working with people with dementia?
3. What do students report as the reasons for their preferences?

2. Method

2.1. Design

This is an analysis of data collected from 2014 to 2018 as part of the TFD evaluation (Banerjee et al., 2017), which is a longitudinal cohort study. Baseline (T1) questionnaires were completed before the start of TFD visits in Year 1 of training, and at equivalent times for comparison groups. Data was collected over three time points approximately 12

months apart during participants' undergraduate training referred to as T1, T2, and T3. One cohort was approached at a further time point, T4, because participation in TFD continued past T3.

2.2. Study setting and sample

Four student cohorts ($n = 488$) at the University of Surrey (UoS) and University of Brighton (UoB); two of these cohorts took part in the TFD programme and two were comparison groups. All participants were either adult or mental health undergraduate nursing students.

2.3. Measures

2.3.1. Career preferences

Participants were asked to complete a ranking exercise of career preferences adapted from Stevens and Crouch (1998). As well as the 10 categories used in previous studies, 'people with dementia' was added as a career choice. Students were asked to rank the 11 specialities from one (their most preferred) to 11 (their least preferred). In addition, open text questions were added at the final time point for each of the cohorts to understand the reasons for their choices. The three questions were:

- 'Please explain why your Rank 1 is your most preferred career choice'
- 'Please explain why your Rank 11 is your least preferred career choice'
- 'Please explain your choice of Rank for a career working with 'people with dementia''.

2.3.2. Socio-demographics

Demographics were recorded at baseline: age, sex, ethnicity, nursing field (adult or mental health) and experience of dementia (yes/no).

2.3.3. Time for dementia participation

Each participant was recorded as either taking part in the TFD programme or as a comparison group (labelled as TFD or Non-TFD).

2.3.4. Knowledge and attitudes towards dementia

A series of standardised questionnaires were chosen as outcome measures for the evaluation of the TFD programme based on their psychometric properties:

i. Alzheimer's Disease Knowledge Scale (ADKS), 30-item questionnaire to assess students' knowledge of Alzheimer's Disease (Carpenter et al., 2009);
ii. Dementia Knowledge Questionnaire (DK-20), 20-item questionnaire to assess dementia knowledge (Shanahan et al., 2013);
iii. Approaches to Dementia Questionnaire (ADQ),19-item questionnaire to assess attitudes towards dementia; (Lintern et al., 2000);
iv. Dementia Attitude Scale (DAS), 20-item questionnaire to assess attitudes towards dementia (O'Connor and McFadden, 2010);
v. Medical Condition Regard Scale (MCRS), 11-Item measure of biases, attitudes and emotions to specific medical conditions (Christison et al., 2002);
vi. Jefferson Scale of Empathy (JSE): Health Professional Version (Hojat et al., 2001), 20-item questionnaire of empathy in healthcare students;

2.4. Procedure

Details of the TFD evaluation methodology have been published in a protocol paper (Banerjee et al., 2017). NHS Health Authority Research Ethics approval was obtained (REC ref.: 15/LO/0046). Students were invited to participate in the evaluation during lectures and emailed study information sheets ahead of the lectures. Written consent was

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[1] Undergraduate training in this paper refers to the entire undergraduate curriculum, including theory and clinical practice placements.

Table 1
Demographics.

Characteristic		Adult nursing (**n** = 386)		Mental Health nursing (**n** = 102)	
		Median	IQR	Median	IQR
Student age		21	19–27	24	19–32
		N	%	N	%
University	University of Surrey	320	82.9	80	78.4
	University of Brighton	66	17.1	22	21.6
Sex	Male	37	9.6	26	25.5
	Female	348	90.4	76	74.5
Marital Status	Never Married	280	75.1	70	70.7
	Currently Married	56	15.0	19	19.2
	Cohabiting	22	5.9	4	4.0
	Separated/Divorced	15	4.0	6	6.1
Experience of knowing Someone with Dementia	Yes	214	56.8	54	54.5
	No	163	43.2	45	45.5
Ethnicity	White British/ European	306	80.5	79	79.8
	Other Ethnic Group	74	19.5	20	20.2
TFD Group	Non-TFD	105	27.2	22	21.6
	TFD	281	72.8	80	78.4

TFD = Time for dementia.

obtained for those students who agreed to take part in the study. All participation in the TFD evaluation was voluntary. This is distinct from the TFD programme itself, where participation in the educational programme was a mandatory component of the curricula for these cohorts. Measure packs took approximately 20–30 min to complete.

2.5. Analysis

The data were analysed using SPSS (version 24). Data were cleaned and only correctly completed preference ranking responses were included in the analysis. The first analysis explored the overall popularity of each specialism and changes in preferences during training (research question 1). Only T1-T3 was assessed due to only a small number of one cohort completing T4 ($n = 43$). The sample was split by field type, as it was assessed that nurses selecting mental health or adult have different core preferences, which was reflected in the distribution of ranks. As not all the career choices had a normal distribution, a non-parametric test was used to assess for change over time; the Wilcoxon Matched Pairs Signed-Ranks test.

A second analysis included a multiple variable linear regression that assessed predictors for rankings of working with dementia at T3 (research question 2). The predictor variables included were selected from the database a priori based on theorised relationships as outlined in the literature. Correlations between each predictor (socio-demographics, participation in TFD, and, knowledge and attitudes to dementia) and outcome (career preferences) were identified as well as individual coefficients in the full regression models.

Content analysis was undertaken on the answers for the open questions presented with the ranking exercise (research question 3). This data includes T3-T4 as this question was only included with their last questionnaire, in the final year of study. Two researchers MH and GS independently coded the transcripts using NVivo (Version 12, QSR International, 2018). Researchers met to discuss coding and to reach a consensus of the codes used for condensed units (each meaningful segment of text) and categories employed. The final analysis was discussed with an experienced qualitative researcher SD to enhance reflexivity.

3. Results

3.1. Response rate

589 nursing students were approached to take part in the TFD study. A total number of 528 nursing students were recruited in the main TFD
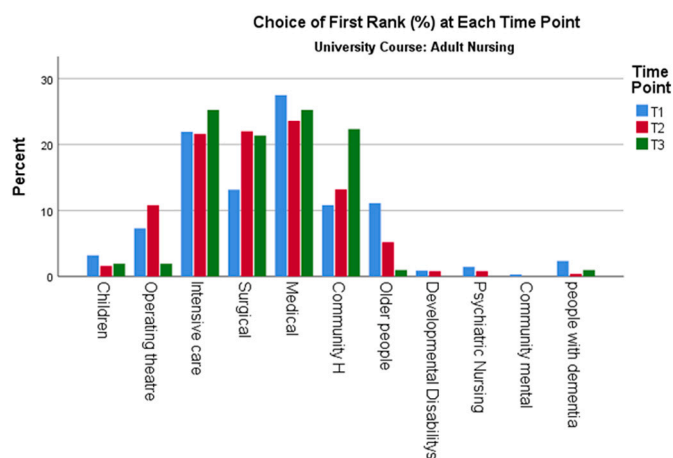

Fig. 1. Choice of first rank (%) over time for adult nursing students.

sample (90% response rate). The sample for this study is 488 and includes those that completed the ranking exercise at any time point. Table 1 details participant information.

Out of the 488 students that completed the ranking exercise: 433 (89%) completed at T1, 295 (60%) at T2, and 122 (25%) at T3. The decreasing numbers at follow up was partly due to high numbers of students leaving the nursing course and reduced attendance at lectures in the later years of the study, where follow up data were collected.

3.2. Research Question 1: how popular is working with patients with dementia and older adults and do these preferences change over undergraduate training?

3.2.1. Adult field

Fig. 1 illustrates the percentage of first choice rankings for each career choice at each time point for adult nursing students.

The most preferred specialty at T1 for adult nurses was medical (27.5%) and this was consistent at T2 (23.6%), at T3 it was joint first with intensive care (25.2%). Community mental health was the least popular choice with only one student ranking it as their first choice at T1.

Working with older adults was ranked in first place by 11.1% of students ($n = 38$) and by 5.2% ($n = 13$) at T2 and by 1% ($n = 1$) at T3. Only 2.3% ($n = 8$) students ranked working with people with dementia

Table 2
Profiles of rankings for each career choice over time (adult nurses only).

	T1 (n = 342)				T2 (n = 250)				T1-T2 n = 210	T3 (n = 103)				T1-T3 n = 93
	Mean	Median	IQR	Rank	Mean	Median	IQR	Rank	P Value	Mean	Median	IQR	Rank	P Value
Medical	3.5	3.0	1.0–5.0	1	3.6	3.0	2.0–5.0	2	0.837	3.2	2.0	1.0–4.0	1	0.976
Intensive Care	3.8	3.0	2.0–5.0	2	3.6	3.0	2.0–5.0	3	0.075	3.3	2.0	1.0–4.0	2	0.076
Surgical	3.9	3.0	2.0–5.0	3	3.4	2.0	2.0–4.3	1	**0.001**	3.4	3.0	2.0–5.0	3	0.232
Operating Theatre	5.3	5.0	3.0–7.0	4	5.3	4.0	3.0–8.0	5	0.415	6.5	6.0	4.0–9.0	6	**<0.000**
Community Health	5.6	6.0	3.0–8.0	5	5.2	5.0	3.0–7.0	4	**0.046**	4.2	4.0	2.0–6.0	4	**<0.000**
Older People	5.7	6.0	3.0–8.0	6	6.1	6.0	4.0–8.0	6	**0.042**	6.0	6.0	4.0–8.0	5	0.434
Dementia	6.2	6.0	4.0–8.0	7	7.1	7.0	5.8–9.0	7	**<0.001**	6.7	7.0	5.0–9.0	7	0.209
Children	7.4	8.0	5.0–11.0	8	7.4	8.0	5.0–11.0	8	0.917	7.9	9.0	5.0–10.0	9	**0.026**
Psychiatric Nursing	8.0	9.0	6.0–10.0	9	8.1	9.0	6.0–10.0	10	0.468	8.1	8.0	7.0–10.0	10	0.585
Developmental Disability	8.0	8.0	7.0–10.0	10	7.9	8.0	7.0–9.0	9	0.891	7.8	8.0	6.0–10.0	8	0.546
Community Mental	8.5	9.0	7.0–10.0	11	8.5	9.0	7.0–10.0	11	0.863	8.7	9.0	8.0–10.0	11	0.307

bold=p<0.05.

as their first choice at T1, and only one student ranked it first at T2 and T3 (0.4%, 1%).

In terms of least favoured choices, children and psychiatric nursing were the careers most frequently ranked last by students studying adult nursing, as might be expected. Working with older people was ranked last by 5.8% (n = 20) students at T1, by 6.4% (n = 16) at T2, and by 5.8% (n = 6) at T3. Working with people with dementia was ranked last by 4.4% (n = 15) students at T1, by 8% (n = 20) at T2 and by 4.9% (n = 5) at T3.

The profile of rankings for each career choice, at each time point, was explored. This included each career choice's relative rank ordered by mean ranks. Statistical significance of change was calculated by the Wilcoxon Signed-Ranks test for comparisons between T1 and T2 (n = 210), and T1 and T3 (n = 93). This is presented in Table 2.

Working with older people was ranked 6th at all three time points. There was some evidence for a decrease in preferences at T2 compared to T1 (Z = 2.04, p = 0.042), but no difference was found between T1 and T3 (Z = −0.78, p = 0.448). This was also found for working with people with dementia, with strong evidence of lower preferences in T2 compared to T1 (Z = −5.209, p < 0.001) but not T3 and T1 (Z = 1.26, p = 0.209). Working with people with dementia was consistently ranked 7th.

3.2.2. Mental health field

The specialities ranked first by each mental health student were less variable than the rankings of adult nurses. Most students chose psychiatric nursing as their first rank at all three time-points (61.5%, 61.7%, 64% respectively). The second most popular was community mental health at 25.3% at T1, 20% at T2 and 24% at T3. Working with older people was only ranked first by one student at T3 (4%). 7.7% (n = 7)

Table 4
Pearson correlations of predictor variables with ranking for working with people with dementia at T3 (n = 106).

	Mean	Std. Deviation	Pearson correlation	Sig.
T3 People with Dementia	6.38	2.63		
University Course (Ad vs MH)	0.18	0.39	−0.27	**0.003**
University (UoS vs UoB)	0.08	0.28	0.00	0.480
Student Gender (Female vs Male)	0.10	0.30	−0.07	0.231
Ethnicity (White British/ Euro Vs Other)	0.18	0.39	−0.04	0.336
Dementia experience (Yes vs No)	0.48	0.50	−0.01	0.455
Student Age	28.28	9.14	−0.14	0.080
ADKS at T3 (0-30)	24.74	2.35	−0.09	0.167
DK at T3 (0-20)	16.31	2.28	−0.07	0.242
MCRS at T3 (11-66)	55.28	6.84	−0.48	**<0.001**
ADQ at T3 (19-95)	80.83	6.54	−0.23	**0.008**
DAS at T3 (20-140)	120.07	12.21	−0.30	**<0.001**
JSE at T3 (20-140)	116.50	12.08	−0.18	**0.027**
TFD (TFD vs Non-TFD)	0.26	0.44	0.19	**0.025**
T1 People with Dementia	6.04	2.51	0.44	**<0.001**

Lower rankings of *working with People with Dementia* equate to a higher preference, and dichotomous variables are coded 0 vs 1. Ad = adult nursing students. MH = Mental health nursing students. UoB = University of Brighton. UoS = University of Surrey. TFD = Time for Dementia.
bold=p<0.05.

students ranked working with people with dementia as their first choice at T1, but after that only one student ranked it as their first choice at T3 (4%).

Table 3
Profiles of rankings for each career choice over time (Mental health nurses only).

	T1 (n = 91)				T2 (n = 60)				T1-T2 N = 51	T3 (n = 25)				T1-T3 N = 20
	Mean	Median	IQR	Rank	Mean	Median	IQR	Rank	P- Value	Mean	Median	IQR	Rank	P- Value
Psychiatric Nursing	1.8	1.0	1.0–2.0	1	2.0	1.0	1.0–2.0	1	0.848	1.8	1.0	1.0–2.0	1	0.226
Community Mental	2.4	2.0	1.0–3.0	2	2.8	2.0	2.0–3.0	2	0.173	2.5	2.0	1.5–2.0	2	0.495
Dementia	5.0	4.0	3.0–7.0	3	5.6	5.0	3.0–9.0	4	0.237	5.2	4.0	3.0–7.0	4	0.626
Community Health	5.5	5.0	3.0–7.0	4	5.4	5.0	4.0–7.0	3	0.679	4.9	5.0	3.0–6.5	3	0.668
Children	6.3	6.0	4.0–9.0	5	5.9	5.0	3.0–8.0	5	0.725	6.4	6.0	4.0–9.0	6	0.167
Older People	6.3	6.0	4.0–8.0	6	6.2	6.0	4.0–8.0	6	0.779	5.7	5.0	4.0–7.5	5	0.448
Developmental Disability	6.9	7.0	5.0–9.0	8	6.7	6.0	5.0–9.0	7	0.219	6.6	7.0	5.0–8.5	7	0.332
Medical	6.9	7.0	5.0–9.0	7	7.1	7.0	6.0–8.0	8	0.225	7.4	7.0	6.0–9.0	8	**0.024**
Intensive Care	7.7	8.0	6.0–9.0	9	7.7	8.0	6.0–10.0	9	0.803	7.8	8.0	6.0–10.0	10	0.639
Surgical	8.2	9.0	6.0–10.0	10	8.2	9.0	7.0–10.0	10	0.767	8.7	9.0	8.0–10.0	9	0.443
Operating Theatre	9.0	10.0	8.0–11.0	11	8.4	9.0	6.3–11.0	11	0.101	8.9	9.0	8.0–11.0	11	0.297

bold=p<0.05.

Table 5

Multiple regression for rankings of working with people with dementia at T3 (*n* = 109).

Variables	B	*SE B*	β	*t*	*p*
(Constant)	12.90	3.82		3.38	0.001
University Course (Ad vs MH)	−1.24	0.68	−0.18	−1.82	0.072
University (UoS vs UoB)	−0.66	0.94	−0.07	−0.71	0.481
Student Gender (Male vs Female)	0.03	0.77	0.00	0.04	0.965
Ethnicity (White British/Euro Vs Other)	0.11	0.63	0.02	0.17	0.868
Dementia experience (Yes vs No)	−0.14	0.47	−0.03	−0.30	0.764
Student Age	−0.02	0.03	−0.06	−0.74	0.464
ADKS at T3 (0-30)	−0.05	0.11	−0.04	−0.46	0.647
DK at T3 (0-20)	0.01	0.11	0.01	0.12	0.905
MCRS at T3 (11-66)	−0.17	0.05	−0.43	−3.60	**<0.001**
ADQ at T3 (19-95)	0.03	0.05	0.08	0.67	0.507
DAS at T3 (20-140)	−0.01	0.03	−0.06	−0.48	0.630
JSE at T3 (20-140)	0.01	0.03	0.07	0.55	0.582
TFD (TFD vs Non-TFD)	0.69	0.60	0.12	1.16	0.251
T1 People with Dementia	0.29	0.10	0.28	2.98	**0.004**

Lower rankings of *working with People with Dementia* equate to a higher preference, and dichotomous variables are coded 0 vs 1. Ad = adult nursing students. MH = Mental health nursing students. UoB = University of Brighton. UoS = University of Surrey. TFD = Time for Dementia.
bold=p<0.05.

The profiles of career choices for mental health nurses and Wilcoxon Signed-Ranks analysis for T1-T2 (*n* = 51) and T1-T3 (*n* = 20) is shown in Table 3. There was no statistical significance for changes over time.

3.3. Research Question 2: what factors are associated with a preference for working with people with dementia?

Pearson's correlations of each a priori selected variable were analysed, shown in Table 4. Multiple regression analysis was used to test what measures significantly predicted participants' ranking of dementia at T3, presented in Table 5. Higher preferences for working with people with dementia were significantly associated with students in the mental health field and those participating in the TFD programme at T3. This was also true for measures of attitude: higher scores on MCRS, ADQ, DAS, and JSE were significantly associated with a higher preference. Students' rankings at T1 and T3 were significantly correlated.

The results of the regression indicated the 14 predictors explained 40% of the variance ($R^2 = 0.40$, F (13.108) = 4.45, $p < 0.001$). Two variables were significant: students rank for working with people with dementia at T1 (β = 0.29, $p = 0.004$) and the MCRS at T3 (β = −0.43, p < 0.001). This indicates strong evidence that higher preferences at T1 and higher scores on the MCRS at T3 are predictive of a higher preference at T3.

3.4. Research Question 3. what do students report as the reasons for their career preferences?

In total 97 participants gave reasons for their ranking of dementia: out of this sample 25 held high preferences, 24 low and 48 for middle rankings for working with people with dementia. The main categories for positive and negative reasons for preference are described in Table 6.

4. Discussion

4.1. Profiles of student preferences; older adults and people with dementia

The first choice career for the majority of adult nurses was either medical, surgical, or intensive care at each time point. This is in line with previous research with technical specialities being more preferred (Gould et al., 2012; Happell and Brooker, 2001; Stevens, 2011).

Working with older people was the fourth most frequently ranked as the first choice for adult nursing students in the first year of training. This is surprising given the literature outlining that working with older people is one of the least favoured choices in all years of study (Happell, 1999; Henderson et al., 2008; Hunt et al., 2020; Kloster et al., 2007; Matarese et al., 2019; Stevens, 2011; Xiao et al., 2013). However, studies have sampled students on generic nursing programmes rather than adult fields, where fields of nursing may be selected later. This preference, however, is not maintained, the number of students ranking working with older people in first place reduces at subsequent time points. Therefore, this study appears to replicate the finding that working with older adults is not a popular first choice career, an even when it is preferred upon entering the course, it diminishes over time spent in training. These profiles of student preferences, in which working with older adults is unpopular and decreases over training, appear consistent with research over nearly two decades (Stevens, 2011) and is

Table 6

Content analysis categories.

Category (n)	Description	Examples
Positive reasons		
positive aspects of work (12)	Positive aspects of the work. Including its holistic focus and rewarding aspects	*"an interest as I like working with people holistically"* *"I find working with people with dementia are challenging but rewarding. I enjoy building a relationship with them"*
aligns with personal skill set (10)	Students described how they feel most confident, comfortable and have lots of experience in this area	*"I have had experience with dementia hence high rank, I feel confident working with people with dementia"*
enjoyment and interest (10)	Students stated that they enjoy working with this patient group or have an interest	*"Enjoy working with dementia patients"*
positive past experiences (7)	Students expressed interest in working with people with dementia directly from previous experiences or described past experiences as enjoyable or pleasant	*"Following placements working in a community mental health team for older people and on an acute elderly specialist dementia ward I've grown great interest to work within the field of dementia"*
Negative reasons		
negative aspects of work (17)	Students described the difficulties with the work. They identified problems with the work environment and communication with patients	*"I found dementia care understaffed, testing and stressful"* *"Enjoy working with people with dementia although at times it can be very challenging physically and mentally as a nurse"*
prefer other areas (12)	Students stated that they prefer other areas more	*"I'm happy working with people with dementia but I prefer other disciplines"*
lack of skills or experience (7)	Participants described how they do not feel they have knowledge or skills to work with this patient group or do not enjoy using these skills	*"Minimal experience. Similarly, with rank 11 it's a skill set I am not too fond of using. I enjoy working with more active people."*
prefer to gain new experiences (4)	Students described having experience with working with dementia and therefore would prefer to work in other areas to develop new skills.	*"I enjoy working with dementia patients, however when I qualify I would like to learn new skills"*
personal experience (2)	Difficulties due to personal experience with dementia	*"As I have had experience with people with dementia in both professional and personal life, I would find it really difficult to cope with a full-time job in this sector"*

concerning.

The number of adult nursing students ranking working with dementia in first place was low and reduced after the first year in training. Dementia was the least preferred after the four less relevant fields for adult nurses (i.e., children, psychiatric, developmental disability, and community mental health). This suggests that working with people with dementia is an unpopular choice for adult nursing students. This trend is also reflected in the reduction of relative rankings; there is a significant change seen between first and second year of training for both working with older adults and people with dementia. This suggests that, like previous literature, preference for working with older people may reduce during undergraduate training. A novel finding from this study is that this may also apply to preferences for working with people with dementia. An implication is that undergraduate training is an influential time on preferences and the reasons and influencing factors behind this should be considered. Previous studies have addressed how undergraduate training may be detrimental to preferences for working with older adults (Gould et al., 2012; Happell and Brooker, 2001; Lee et al., 2006; McCloskey et al., 2020; Stevens, 2011; Zisberg et al., 2015), less is known about dementia and more work in this area is needed.

4.2. Factors associated with preferences for working with dementia

Students that had participated in the TFD programme had a higher preference of working with people with dementia on a univariable level. However, when accounting for all other factors, including preferences at the start of training, it was not a statistically significant predictor.

Measures of attitude were significantly correlated with preferences at the univariable level. Multivariable analysis revealed that attitude scores, measured by the MCRS, were significantly associated after accounting for other variables. The MCRS measures to what extent students 'view patients with a given medical condition as enjoyable, treatable and worthy of medical intervention and resources' (Christison et al., 2002). These findings provide strong evidence for a link between positive attitudes to dementia care and preference of the work and provide further support for the importance of developing positive attitudes to dementia in undergraduate students. Qualitative research is needed to explore the content and development of attitudes specifically related to preferences for working with people with dementia.

4.3. Students' reasons for low and high preferences (content analysis)

The most common category of response, regardless of ranking, was the negative aspects of the work. This included communication difficulties and the 'challenging' nature of the work. McKenzie and Brown (2014) found that the most cited reasons for barriers to working with people with dementia were lack of interest and communication difficulties. This is mirrored here in that stronger preferences for other areas were cited as a reason for low preference and communication difficulties were outlined as a challenge.

One main reason given for a high preference for working with people with dementia was around enhanced skills and knowledge. In contrast, lack of knowledge and experience was cited as a reason for low preference. Therefore, results suggest that students selected working with dementia more preferably because they felt competence and confidence in this field of work, suggesting perceived competence may be a factor. These results are consistent with previous literature finding that students' evaluation of their skills and knowledge are associated with preferences for working with older people (Hebditch et al., 2020) and appears as a central factor in student nurses' reasons for preferences for working for dementia specifically. The implication is that building skills and confidence are integral for positive perceptions of this work.

4.4. Key strengths and limitations

A strength of this study is its novelty. First, it addresses a gap in the

literature in that it explores factors associated with preferences of working with people with dementia. It is the first study to explore quantitatively the relationship of preferences with attitudes to dementia. Second, it adds to the literature on career preferences towards older adults and dementia of students within the UK, which is sparse. Furthermore, it includes a relatively large sample of data that was collected longitudinally allowing changes in relative preference for working with people with dementia to be assessed.

There are three limitations of note. First, the low response rate at follow up points. This may have led to selection bias, however there was no evidence of concentration of preferences for working with older people or people with dementia. The mean scores for attitudes and knowledge are also similar to comparable populations. While mean totals for outcome measures are higher than found in the original measure development studies (Carpenter et al., 2009; Christison et al., 2002; Hojat et al., 2001; Lintern et al., 2000; O'Connor and McFadden, 2010; Shanahan et al., 2013), they are similar to more recent studies within the nursing educational intervention literature (Kimzey et al., 2016; Levett-Jones et al., 2019; Maharaj, 2017). Despite the lower response rate, it was positive that there were sufficient data for regression analysis.

Second, preferences were measured by a modified career ranking scale. This has been the most frequently used measure of intention to work with older people (Che et al., 2017). However, its psychometric properties are not well established. This was selected as no alternative was found but future work should develop validated measures. One disadvantage of this measure was its suitability for student mental health nurses. Their first choices were less variable as 'psychiatric nursing' is seen as encompassing their whole field and was the most preferred choice. However, there was variability in rank choice of dementia and older adults that was able to be explored.

Third, there were limitations of the content analysis. The sample of students who completed these open questions was limited to the final data collection point for each cohort. Therefore, it is not appropriate to triangulate the results from the survey to content analysis. Furthermore, the generalisability of findings is limited due to this being a relatively small sample collected at only two universities, and some participants had taken part in the TFD programme, and therefore their experiences will have shaped their perspectives of working with dementia. However, the reasons given are informative regardless of their mechanism.

5. Conclusion

Working with people with dementia was not a preferred career choice of student nurses and there is evidence that this preference reduces over time. Factors associated with preferences for working with people with dementia at the end of nurse training included: attitudes to dementia; preparedness; and students' perceptions of work characteristics such as communication, and the challenging nature of work. The year of training was also associated suggesting a negative role of university curricula in preferences for working with people with dementia. These results underscore the importance of the role of undergraduate curriculum and preparation. Future directions for research include exploring the reasons for changes in preferences over time, investigating associated factors including the possible influence of educational interventions, and further qualitative work to understand student perspectives.

editing.

Declaration of competing interest

None.

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