



Visual perceptions of ageing; A longitudinal mixed methods study of UK undergraduate student nurses' attitudes and perceptions towards older people

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ABSTRACT

Ageism and negative attitudes are said to be institutionally embedded in healthcare during a time when there are unprecedented increases in older population numbers. As nurses' care for older people in a range of environments it is important to examine attitudes and perceptions of undergraduate nurses towards older people. A longitudinal mixed methods study in conjunction with a three-year undergraduate UK nursing programme 2009–2012 was conducted with 310 undergraduate nurses. A questionnaire incorporating Kogan's attitude towards older people scale and a drawing of a person aged 75 years was completed three times, once each year. Thurstone scale and photo elicitation were also employed. Comparisons were made between individual participant's attitude score and drawing. The study established 75% of participants had moderately positive attitudes towards older people when the programme began, at the programme end this had increased to 98%. Age, gender, educational qualifications, practice learning, nursing field and contact with older people influenced participants' overall attitude score. Drawings provided a visual narrative of participants' perceptions of older people, appearance was a dominant discourse and the images were socially constructed. The study established the undergraduate nursing programme influenced attitudes and perceptions towards older people and suggests nurse education can influence changing attitudes. To date there is no known study that has advanced this understanding.

1. Introduction

Globally the population is ageing, with 11.8 million people over 65 in the UK (Age UK, 2018). This has created challenges for healthcare professionals, some older people receive substandard care with staff failing to recognise humanity, individuality and compassion and where poor cultural practices become accepted norms (Care Quality Commission (CQC), 2017); Francis Report, 2013; Gosport Panel, 2018; Parliamentary and Health Service Ombudsman, 2011). In addition, the National Health Service provides older people with poorly funded and integrated services (Oliver et al., 2014). It could be suggested that public and professional discourses of ageing influence how older people receive care. Misconceptions about old age have formed and positive aspects of later life have become less dominant with a narrative of independence (the third age) been versed against frailty and dependence (the fourth age) (Higgs and Gilleard, 2015). Negative views of later life permeate all cultural and social aspects of society including nurse

education. However, nurse education has the potential to influence positive attitudes towards older people. UK nurse education relating to older people requires theory and practice learning to take account of essential physical and mental health needs of all people (NMC, 2010). Recommendations have been made for a nurse qualification focusing on older people (Francis Report, 2013) and it has been suggested that nurse education needs to instil a better understanding of working with older adults (Age UK, 2011) and enhance nurse attitudes towards older people. The recent publication of the revised standards for UK nurse education (NMC, 2018) have not fundamentally addressed the need for specific competencies associated with the ageing population further supporting the need for heighten awareness by nurse educators.

Attitudes are a psychological concept that is communicated by an evaluation of an entity (person, group of people or inanimate object) that is favourable or unfavourable. This evaluation is influenced by a residual of past experiences, feelings, knowledge (cognition) and affection which in turn influences behaviour (Ajzen, 2005). A perception

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is how something is understood and interpreted and can be modified according to the social situation. Both perceptions and attitudes are therefore influenced by personal and professional social constructs, exposure and observed behaviour to the entity. Research to date has focused on attitude measurement at a point in time and is reflected by the dominance of quantitative papers. A mixed methods longitudinal study was a way to explore current understanding to produce recommendations for future practice.

1.1. Literature review

The original literature review was conducted during the study, this has been updated to ensure currency. Nurse education (internationally) has been considered to develop both positive and negative attitudes towards older people, reasons for this are complex and multifaceted. A context-based curriculum (Williams et al., 2007) and learning with older adults (Brown and Bright, 2017; Koskinen et al., 2016) were shown to foster positive attitudes, decrease misconceptions and challenge stereotypes. Whilst an integrative review of eleven US and Canadian papers identified that engagement with gerontological content improved student nurses' attitudes towards older people (Hovey et al., 2017). However, nurse education appears to discourage careers in older peoples nursing with younger adults or acute care being preferred career choices (Happell, 2002; Rathnayake et al., 2015). There seems to be agreement in the literature that older peoples' nursing is uninteresting and mundane, for example Evers et al. (2011) established students perceived the speciality as not challenging. Contributing factors to negative attitudes include working and learning in impoverished environments, observed poor care standards, staff attitudes to older people (Brown et al., 2008), nurse educations emphasis on acute care (Algozo et al., 2016) and physically demanding care (Higgins et al., 2007). Further precursors for negative attitudes included functional disability and incontinence (Alabaster, 2007; Evers et al., 2011; McLafferty and Morrison, 2004), assumptions relating to care (Billings, 2006) and characteristics of older adults (Rush et al., 2017). Acute care environments in contrast were viewed as exciting, varied and challenging, where skills acquisition and knowledge were gained (Baumbusch et al., 2012). Whilst little is captured in the literature about factors that promote positive attitudes, older people being friendly, cheerful, self-caring and independence (Evers et al., 2011) or having the ability to communicate promoted positive attitudes. Importantly, the classroom made limited impressions on undergraduate nurses' learning in relation to older people (Happell, 2002) in contrast to placements where clinical instructors influenced attitudes (Simpkins-Gibbs and Kulig, 2017). Some older studies have identified nurse lecturers' attitudes towards hospitalised older adults were more positive than students, however lecturers focused on perceived negative aspects of ageing (McLafferty and Morrison, 2004) and were less positive about maintaining their own professional development and in promoting the field (McLafferty, 2005).

Research that has explored attitudes towards older people have focused on pre/post-test educational interventions (Baumbush et al., 2012; Ferrario et al., 2007; Koskinen et al., 2016; Rodgers and Gilmour, 2011; Ryan et al., 2007) and demonstrated increased student awareness and positive attitudes towards older people. However, each programme was manipulated questioning whether enhanced attitudes were sustained or occur in normal educational practices and a paucity of UK based papers is noted. Kogan's (1961) attitudes towards older people scale (KAOPS) has been used extensively (Neville and Dickie, 2015; Yun-e et al., 2013), shown both negative attitudes (Ferrario et al., 2007) and moderate to positive attitude scores (Adibelli and Kiliç, 2013; Iecovich and Avivi, 2017; Lin and Bryant, 2009; Turan et al., 2016; Zampieron et al., 2012; Zhang et al., 2016) in nurses. Several factors have been found to influence attitudes, males have generally scored more negatively (Lee, 2009; Lin and Bryant, 2009; Söderhamn et al., 2001), whilst females were more positive (Deltsidou et al., 2010;

Söderhamn et al., 2001). Being older facilitated more positive attitudes in several non-UK studies (Deltsidou et al., 2010; Hweidi and Al-Obeisat, 2006; Söderhamn et al., 2001) and educational qualifications impacted on attitudes towards older people (Hweidi and Al-Obeisat, 2006; Ryan et al., 2007) with traditional school educational achievements associated with more positive attitudes (Ryan et al., 2007). It has been established previous clinical experience enhanced attitudes towards older people (Söderhamn et al., 2001) as did working with older people (Polat et al., 2014). Finally, those with close friendship, regular contact or living with older people were noted to stereotype less (Age UK, 2011; Evers et al., 2011; Lee, 2009; Rathnayake et al., 2015; Ryan et al., 2007) and grandparents were used by teenagers to depict their understanding of older people (Lichtenstein et al., 2005).

There is a paucity of research using visual methodology within nurse education, a small number of gerontology-based studies have established that older adults are often stigmatised because of physical decline (Barrett and Cantwell, 2007; Lichtenstein et al., 2005; Roberts et al., 2003). Visual tropes and signifiers have been identified and include wrinkles and grey hair (Lichtenstein et al., 2005), mobility aids were found to be common stereotypes associated with age (Barrett and Cantwell, 2007; Lichtenstein et al., 2005). Visual and written stereotypes of older people occur through pervasive public discourses and media representations (Bytheway and Johnson, 1998; Dyer, 1982). Negative stereotypes include older people being perceived as bad tempered, grumpy, isolated, useless and experiencing physical and mental decline. Positive stereotypes were being perfect grandparents, kind, dependable, happy, having freedom and eternal youth (Barrett and Pai, 2008; Blaine, 2013; Palmore, 1990). Common cultural and social stereotypes also exist about what older people do these include walking, cooking and specific social activities (Lichtenstein et al., 2005), however little is understood in a nurse context and how these impact on nurse education. It has been recommended that perceptions of ageing are explored via longitudinal studies (Hovey et al., 2017) and there remains a paucity of UK based literature on this subject.

1.2. Research aim

Based on a PhD study (Ridgway, 2015) the research aimed to explore undergraduate nurses' perceptions of older people during their undergraduate programme by examining their existing attitudes towards older people at the beginning of the programme and how these evolved during their programme. The curriculum contained some gerontological content concerning ageing and disease processes that all students undertook during generic learning. Adult students had further theory in their field programme and gained clinical experience in accordance with the European Union requirements for training in general care (NMC, 2010). The study also examined what impact the programme had upon them in relation to older people and what influenced their perceptions towards older people. Finally, it considered the implications of the findings for nurse education and practice.

2. Methods

A prospective and diachronic three-year longitudinal study with a mixed multi-level design was used to facilitate a greater understanding of undergraduate nurses' attitudes and perceptions towards older people. Three dominant methods were used, first a questionnaire that incorporated the KAOPS and a drawing (collected simultaneously using the same participants three times), second a Thurstone scale that occurred after each data collection point and third photo elicitation interviews used at the end of the study.

The questionnaire incorporated the KAOPS and a drawing of a person aged 75 years. The KAOPS assess individuals positive and negative attitudes towards older people with respect to norms, differences, stereotypes and misconceptions (Lee, 2009). Kogan (1961) devised 17 opposing paired statements (positive and negative) (Table 1)

Table 1
Kogan's paired questions.

Q1 (negative)	"Most old people tend to let their homes become shabby and unattractive"
Q21 (positive)	"Most older people can generally be counted on to maintain a clean attractive home"
Q2 (positive)	"Most old people respect others privacy and give advice only when asked"
Q22 (negative)	"Most old people spend too much time prying into the affairs of others and giving unsought advice"
Q3 (negative)	"It is foolish to claim that wisdom comes with old age"
Q20 (positive)	"People grow wiser with the coming of age"
Q4 (positive)	"One seldom hears old people complaining about the behaviour of the younger generation"
Q19 (negative)	"Most old people are constantly complaining about the behaviour of the younger generation"
Q5 (positive)	"When you think about it old people have the same faults as anybody else"
Q23 (negative)	"If old people expect to be liked, their first step is to try to get rid of their irritating faults"
Q6 (positive)	"It is evident that most old people are very different from each other"
Q33 (negative)	"There are a few exceptions but in general most older people are pretty much alike"
Q7 (negative)	"Old people should be more concerned with their personal appearance: they're too untidy"
Q27 (positive)	"Most old people seem to be quite clean and neat in their personal appearance"
Q8 (negative)	"Most old people bore others by their insistence on talking about the good old days"
Q10 (positive)	"One of the most interesting and entertaining qualities of most old people is their accounts of their past experiences"
Q9 (positive)	"You can count on finding a nice residential neighbourhood when there is a sizeable number of old people living in it"
Q13 (negative)	"In order to maintain a nice residential neighbourhood it would be best if too many old people did not live in it"
Q12 (negative)	"Most old people make one feel ill at ease"
Q25 (positive)	"Most old people are very relaxing to be with"
Q11 (positive)	"Most old people are cheerful, agreeable and good humoured"
Q34 (negative)	"Most old people are irritable, grouchy and unpleasant"
Q14 (positive)	"Most old people are really no different from anybody else: they're as easy to understand as younger people"
Q26 (negative)	"There is something different about most old people: it's hard to figure out what makes them tick"
Q15 (negative)	"Most old people get set in their ways and are unable to change"
Q32 (positive)	"Most old people are capable of new adjustments when the situation demands it"
Q16 (positive)	"Old people should have more power in business and politics"
Q28 (negative)	"Old people have too little power in business and politics"
Q17 (positive)	"Most old people need no more love and reassurance than anybody else"
Q31 (negative)	"Most old people make excessive demands for love and reassurance"
Q18 (negative)	"It would be better if most old people lived in residential units with people of their own age"
Q29 (positive)	"It would be better if most old people lived in residential units that also housed younger people"
Q24 (negative)	"Most old people would prefer to quit work as soon as pensions or their children can support them"
Q30 (positive)	"Most old people would prefer to continue working just as long as they possibly can rather than be dependent on anybody"

and used a Likert scale with a neutral midpoint. An overall ratings attitude score is produced, range 34–238. Respondents accumulate a score from each question answered, scores above 136 are positive, below negative with 136 being neutral. Correlations can be measured between the opposing pairs. KAOPS reliability has been confirmed by several studies (Iecovich and Avivi, 2017; Rodgers and Gilmour, 2011; Zverev, 2013), it is acknowledged internationally and widely used (Neville and Dickie, 2015; Yun-e et al., 2013), even though some criticisms of the scale exist regarding outdated language and whether it measures attitudes. Permission was granted from Kogan to use the scale. Like other studies additional questions were added capturing data regarding gender, age, ethnic origin, educational qualification, nursing field, care experience, contact with older people and anticipated career choice (Koskinen et al., 2016; Rathnayake et al., 2015). The last section of the questionnaire asked the participants to draw a person aged 75 years, chosen to reflect the third age. Drawings can be used to articulate concepts (perceptions) that may not be verbalised (Rose, 2016) and drawing older people may identify implicit stereotypes better (Barrett

and Pai, 2008). Disadvantages of drawings include participant ability, the images innocence and how and interpretation occurs (Rose, 2016). To compensate for these two secondary methods were applied, these facilitated a deeper understanding and aided analysis. 1) Photo elicitation is simply a participant produced photograph (drawing) used as an interview prompt (Rose, 2016) and 2) Thurstone scales explore attitude change exploration (Oppenheim, 1992) judges from the same sample used a pre-designed proforma to review the drawings and wrote a narrative about the image, deciding if it was stereotypical and rated the drawing on a scale of 1–10 (1 negative, 10 positive).

2.1. Procedure

Ethical approval from the Faculty Ethics committee was gained where the study would be conducted. Careful consideration was given to power, coercion and to ensure that visual images were not presented in a belittling manner. Unprofessional practice regarding the portrayal of older people were considered and a process to escalate concerns implemented. Data were collected in class whilst participants attended University, with the researcher present;

- Year one, prior to placement one,
- Year two, mid-year following placement, having completed 30 weeks of practice learning,
- Year three, the programme end, having completed 60 weeks of practice learning.

Students were contacted via email and provided with information about the study one week before data collection. Participants were asked to sign a consent form and complete the anonymous questionnaire (KAOPS and to draw a picture of a person aged 75 years), whilst in University. Photo-elicitation and Thurstone scale were drawn from the same sample.

2.2. Participants

The inclusion criteria for the study stipulated that one cohort of undergraduate nurses would be used, those who did not belong to this cohort were excluded. The total cohort of 317 undergraduate nurses were invited to participate including all fields of nursing as they all had generic learning associated with older people and have exposure with well or sick older people during the programme, 310 consented and 307 completed the initial questionnaire. Table 2 details participant information.

2.3. Data analysis

SPSS package was used version 21. Internal reliability of the questionnaire was measured by Cronbach alpha test. Pearson's and Spearman rho correlations were used as advocated by Kogan (1961). An

Table 2
Participant information.

Participant Information	Number (Percentage %)	
Gender	Male	28 (9%)
	Female	279 (91%)
Age	17–21	158 (52%)
	22–29	78 (25%)
	30–39	47 (15%)
	Above 40	24 (8%)
Ethnicity	White British	290 (95%)
	Other	17 (17%)
Nursing Field	Adult	228 (74%)
	Child	18 (6%)
	Learning Disability	15 (5%)
	Mental Health	46 (15%)

Table 3
Correlational analysis of KAOPS.

Paired Questions	Year 1		Year 2		Year 3		Complete data Spearman's rho
	Pearson	Spear-man rho	Pearson	Spear-man rho	Pearson	Spear-man rho	
Q1/Q21	.264*	.239**	.162**	.217**	.283**	.327**	.258**
Q2/Q22	No correlation		.141**	.146*	.257**	.247**	.153**
Q3/Q20	.364**	.373**	.263*	.265**	.394**	.389**	.343**
Q4/Q19	-.129*	-.127*	-.262**	-.253**	-.269**	-.266**	-.198**
Q5/Q23	No correlation		.244**	.314**	.177*	.184*	.149**
Q6/Q33	.229*	.250**	.339**	.398**	.291**	.348**	.328**
Q7/Q27	.175**	.154**	.175**	.192**	No correlation		.121**
Q8/Q10	.249**	.302**	.135*	.201**	.171*	.278**	.260**
Q9/Q13	No correlation		No correlation		No correlation		No Correlation
Q12/Q25	No correlation		No correlation		No correlation		No Correlation
Q11/Q34	.233**	.221**	.135*	.160*	.169*	.219**	.210**
Q14/Q26	No correlation		.183**	.231**	.184*	.263**	.199**
Q15/Q32	.365**	.341**	.323**	.292**	.166*	.162**	.294**
Q16/Q28	-.402**	-.440	-.371**	-.392**	-.519**	-.526**	-.445**
Q17/Q31	No correlation	-.117	No correlation		No correlation		No Correlation
Q18/Q29	No correlation	-.141*	No correlation		-.196**	-.253**	-.106**
Q24/Q30	.286**	.295**	.306**	.349**	.388**	.429**	.346**

independent sample *t*-test was used to compare KOAPS to demographic variables (Koskinen et al., 2016; Rathnayake et al., 2015). Rose's (2016) three-stage analytical framework were used to analyse the drawings, they were sorted into broad categories and a description written, Thurstone scale findings were compared to the initial analysis and provided independent ratings to these descriptions, further analysis of each theme then occurred. Finally, the photo elicitation findings were added, again enabling a deeper independent analysis. Drawings were rated positive, neutral or negative, Lichtenstein et al. (2005) and Roberts et al. (2003) both described image rating. Positive ratings included happiness, sunshine, flowers and smiling. Neutral ratings had limited detail and mixed stereotypical imagery and negative ratings had sad faces, depicted physical decline and loneliness. These ratings were compared to the overall KAOPS score of individual participants.

3. Results

There was a 97% (n310) return for year one, 76% (n221 out of n289) for year two and 72% (n191 out of n267) for year three. Six questionnaires were spoilt, leaving 716 for analysis. The KAOPS correlations are presented in Table 3, three paired questions did not yield significant correlations. Cronbach alpha (α) indicated good reliability in each year: 0.76, 0.80 and 0.77 respectively. The overall score of attitude (Table 4) moved from slightly positive to positive during the study, year one ranged from 89 to 198 and 66% had slightly positive attitudes. In year two the range were 126–216, more participants achieved positive attitude scores. In year three the range were 90–213, more had positive scores and 98% scored above neutral.

Table 5 demonstrates that the participants age affected attitude score, those aged 17–21 started with the lowest KAOPS mean and age group 22–29 improved the least. Females scored higher KAOPS means than males. There was little difference noted between fields of nursing in year one, however Learning Disability (LD) field advanced significantly in comparison. Participants from access courses had poorer

Table 4
Overall score of attitude.

	Extremely Negative 34–68	Negative 69–102	Slightly Negative 103–136	Slightly positive 137–169	Positive 170–204	Extremely Positive 205–238
Year 1	–	1%	5%	66%	28%	–
Year 2	–	–	10%	48%	40%	2%
Year 3	–	1%	1%	47%	50%	1%

Table 5
Undergraduate nurses characteristics and attitude score.

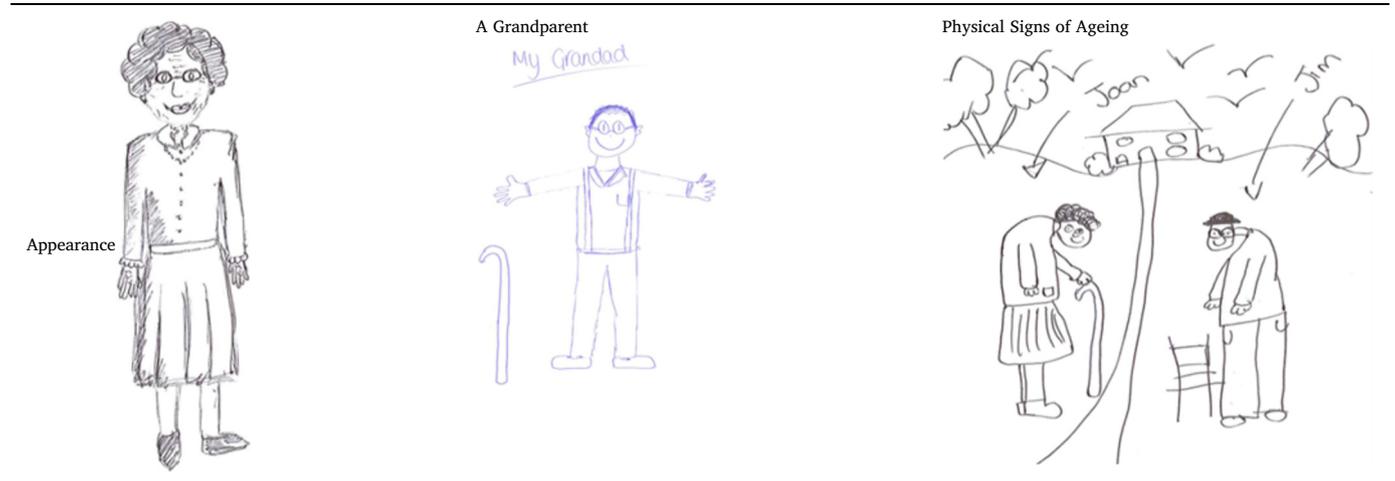
Characteristic	KAOPS Mean (SD) Year 1	KAOPS Mean (SD) Year 3
Age:		
17–21	159 (14.7)	168 (15.6)
22–29	164 (14.8)	165 (17.2)
30–39	161 (13.9)	171 (11.7)
40–49	165 (21.5)	174 (20.1)
50+	162 (12.1)	188 (1.4)
Gender:		
Male	159 (13.6)	165 (15.1)
Female	161 (15.5)	168 (16.6)
Field of Nursing:		
Adult	161 (15)	168 (16.9)
Child	158 (23.4)	161 (18.8)
Learning Disability	158 (9.1)	172 (7.3)
Mental Health	161 (14.9)	170 (15.6)
Educational Qualification:		
GCSE	164 (12.6)	165 (22.5)
NVQ	159 (16)	167 (15.5)
A Level	160 (14.4)	171 (14.6)
Degree	167 (10.9)	170 (16.4)
Contact with older people (grandparent):		
Daily	161 (12.6)	171 (14.2)
Weekly	162 (15.1)	166 (17.7)
Contact with older people in practice		
Daily	–	167 (15.5)
Weekly	–	170 (14.9)

means (159, SD 16). In year 3 those entering with A' Levels made the most significant improvement from 160 (SD 14.4) to 171 (SD 14.6). Contact with older adults (grandparents) facilitated positive KAOPS means. In year three caring for older people in practice established that weekly contact facilitated a higher mean overall score.

Work preference captured in year three indicated that 34% selected acute care settings as a career choice. High technological skill development, opportunities to learn, pace and variety of work and mentor support were factors that contributed to this. Only 5% chose older persons' nursing, these participants had higher KAOPS mean (178; SD 11.3), the ability to provide holistic care influenced this choice.

In total 645 images of a person aged 75 years were produced, 286 in year 1, 188 in year 2 and 171 in year 3, these portrayed the participants' perceptions of older people. The images formed six prominent themes; appearance, mobility, family, stereotyping, emotions and activity (Table 6). Appearance became a central concept in many drawings, held dominant visual iconic and symbolic meanings of being older and occurred across the three years. Clothing and hairstyle were

Table 6
People aged 75 years.



important signifiers used to depict age, men were typically portrayed in suits with facial hair and participants repeatedly drew the same iconic image of older women (curly hair, cardigan, pleated skirt) during the study from this a uniform of later life (ULL) emerged, however there were some contemporary images drawn.

The second key finding were the use of physical signifiers to depict age these included hunchbacks, mobility problems, sensory loss (via the depiction of glasses) and wrinkles. Men had enlarged ears and noses, whilst 50% of women had wrinkles, this was consistent across the study. Women were also noted to have hairy legs, changes to body shape (saggy skin and breasts, being overweight), facial hair and moles. Many participants portrayed older people with mobility aids (walking sticks or Zimmer frames), this was consistent in each year and more males were drawn in this theme. However, some drawings indicated the mobility aid supported maintenance of lifestyle and independence.

The third finding identified participants drew grandparents or someone they knew (a service user or neighbour), however the number decreased in each year. These were positive portrayals of older people and were often seen as role models for participants, many were drawn undertaking roles (caring for others, involvement in family life) suggesting a true representation. The fourth finding indicated some participants considered the age 75 years not to be old or referred to older people not looking their age, it was noted professional experience and personal ageing appeared to impact on these participants' views of ageing. The fifth finding were the use of signifiers of death and illness in the drawings, coffins, grave stones, hospital beds, medicine bottles, medical equipment were used. The sixth finding identified the drawings depicted emotion throughout the study, older people were happy via positive signifiers of sun, flowers, birds and a smile and sad via signifiers of clouds, rain, lightening and frowns. Loneliness were depicted by surroundings, the environment or via drawings of cats. Words 'happy', 'sad' 'who cares about me' were used as adjectives to describe moods and feelings.

The seventh and final finding established the drawings depicted older people undertaking activities, that included shopping, exercise (walking) and social engagement, this was consistent across the study. Branded shopping/supermarket bags were drawn alongside shopping trolleys and use of public transport, these were further age signifiers. Social activities included volunteer work, attending clubs, gardening and holidays, however stereotypical imagery emerged about activities such knitting or bingo.

The ratings of drawings offered connections between the exploration of perceptions (drawings) and attitudes (KAOPs). Positive ratings in year 1 were 51% ($n = 159$), 52% ($n = 114$) in year two and 47% ($n = 89$) in year three. When compared to overall KAOPS those rated

positively had higher mean KAOPS, whereas negative drawings had lower KAOPS mean.

4. Discussion

This is the first known study to use the KAOPS alongside drawings. The participants' social construction of ageing was visualised, providing a narrative of their beliefs and perceptions about older people. This alongside the attitude measurement scale has provided a clearer picture of undergraduate nurses' attitudes and perceptions of older people. The study established that 98% of participants had positive attitude scores at the end of the programme and reflected non-UK research (Hweidi and Al-Obeisat, 2006; Zverev, 2013). Therefore, a tentative finding suggests the participants educational experience in theory and practice influenced attitudes and perceptions, although it cannot be claimed to be solely responsible.

The use of Kogan's tool demonstrated that the paired questions require revision due to poor correlation outcomes. Neville and Dickie (2014) noted that although the tool has been criticised for its lack of contemporary social context it is still the most commonly used to assess curriculum interventions and undergraduate nurse attitudes towards older people. This study provides further evidence that work is needed to update and revalidate the tool for its continued use.

The drawings created an immediate visual impact and provided a powerful discourse relating to the participants' social constructs of ageing. Signifiers and tropes within the drawings bestowed meaning that included the perceived physical changes associated with age and appearance indicated by clothing and hairstyle. A key finding was the emergence of a ULL. The emphasis on appearance provided a traditional social identity of older people through the participants' eyes, this fascination and prominence of appearance reflected Higgs and Gilleard (2015) work on the 'aestheticisation' or the 'social imaginary' of the body and Dyer's (1982) representation of bodies (hair, body and looks), suggesting participants produced iconic representations of old. The use of clothing and hairstyle to depict age is believed to be the first time this aspect of appearance and identity has been found in undergraduate nurses'. The portrayal of walking aids could be attributed to several factors, including social and media representation of being old, health status of older people known to the participant, programme content and the practical experience of nursing. The findings were broadly representative of an Age UK (2018) survey that identified 38% of people aged 70 and above experienced mobility difficulties. Emphasis on disability reflects known stereotypes about physical decline and suggests work is needed in education to ensure curricula includes exposure to well older adults because they positively influence students' attitudes

and perceptions (Evers et al., 2011).

Contact with grandparents and other older people impacted on attitudes and facilitated more positive KAOPS means. The small decrease in KAOPS mean when participants had more frequent contact with older people at work suggested dependence and caring for ill older adults may have affected positive attitude formation (Alabaster, 2007). The measurement of contact with older people external to the programme, such as grandparents helps prevent some bias towards what influenced attitudes towards older people, however the findings need to be reviewed in consideration of this and that not all fields of nursing would participate in direct care contact with older people. The drawings that depicted grandparents and older people participants knew appeared reflected previous visual research (Lichtenstein et al., 2005) and supported understanding that intergenerational contact and older role models aid positive attitude formation (Ryan et al., 2007). This suggests older role models should be an integral part of UK nurse education.

The current study add further insights about how older people are emotionally portrayed, more participants drew older people as happy and supports a more favourable understanding (Barrett and Cantwell, 2007; Barrett and Pai, 2008; Lichtenstein et al., 2005; Roberts et al., 2003). The high percentage of people drawn smiling can be equated to Palmore's (1990) positive stereotype 'happiness' and Dyer's (1982) representation of manner through expression (emotion). The drawings further identified sociological values of not looking old, being beautiful and youthful. Visual tropes and words referred to the expansion of the third age (Higgs and Gilleard, 2015) and drew on the eternal youth stereotype (Palmore, 1990).

This study found several participants' characteristics influenced overall KAOPS. Those aged above 30 had higher KAOPS (Hweidi & Al-Obeisat, 2006; Söderhamn et al., 2001). In age group 17–21 the KAOPS improved sequentially suggesting the programme fostered and nurtured the development of positive perceptions towards older people. This observation generates new understanding as previous research noted under 25s had more negative attitudes (Söderhamn et al., 2001) and supports the need for more precise exploration of under 25's (Neville and Dickie, 2014). It was difficult to explain why those aged 22–29 KAOPS remained stable and suggested established opinion towards older people was not advanced, therefore these participants need specific targeted education to challenge formed perceptions. The findings reaffirmed previous research that gender influences the KAOPS, gender socialisation has been suggested as a causative factor (Lee, 2009; Söderhamn et al., 2001) however the small difference in scores suggest males held similar values. This study established entry educational qualifications impacted on KAOPS outcomes, in year 3 those with A levels overall KAOPS improved significantly, suggesting their learning and development had been enhanced, corroborating Ryan et al.'s (2007) work on traditional school leavers.

This study found that the overall KAOPS improved for each nursing field during the programme and although the child field KAOPS did improve their lack of exposure to older people in clinical practice would have impacted on their outcome. A key finding suggested LD students were more conceptually aware of stereotyping and discrimination. Although clarification is needed, the attributes of LD nurses are possible explanations; exposure to diverse clients, focus on independence and empowerment rather than disability, being non-judgemental, challenging social exclusion and learning facilitating compassionate approaches. Significantly literature identified individualised care, empowerment, autonomy (Burke and Doody, 2012) facilitated positive perceptions, pointing to the uniqueness of LD nursing.

High technological, challenging, exciting and variety of work was important for the participant in their career choice and more selected acute care environments (Lee et al., 2006; Rathnayake et al., 2015). Programme content and placement circuit may provide an explanation, where older people were less prominent, which may discourage gerontology careers (Algosio et al., 2016; Delsidou et al., 2010; Happell,

2002). Participants who outlined nursing older people as influential valued communication and the ability to provide holistic care. Further research is needed to clarify these responses as a paucity of contemporary understanding was noted in a UK context.

Finally, our study identified that there was a direct correlation between overall KAOPS and drawing ratings. From this observation the use of drawings has provided a form of 'visual speaking' that allowed the recording of perceptions (Rose, 2016), this approach could be used as an independent research method.

4.1. Limitations

This study included some limitations. The purposive sample, a cohort of undergraduate nurses from one UK University included all fields of nursing and although contact with older people was recorded there were differences between the fields exposure to older people. There was 38% attrition during the study, attributable to progression failure, lack of attendance on data collection days and the nature of longitudinal studies. Participant drawing ability may have influenced the production and the results indicated that several KAOPS paired questions did not correlate. It is recommended that a revision of Kogan's (1961) tool is undertaken. Finally, the data was collected between 2009 and 12, however there is no known study in nursing that has been published since using drawings and the KAOPS and there are continued reports concerning the care older people receive.

5. Conclusion

In conclusion the findings revealed that the undergraduate nurses in this study developed more positive attitudes towards older people as the programme progressed. This is the first reported study in the UK to use drawings alongside KAOPS. The drawings illustrated participants' perceptions of age and ageing through a social and cultural lens. The findings are rooted in their complex and varied life experiences of which the programme is only one, though clearly a key factor in their development. Further work is required to understand the perceptions of undergraduate nurses and how these can be embraced in nurse curricula as the findings reflect one cohort of nursing at one university. Although encouraging the results do indicate that work is needed to address how undergraduate nurses perceive older people and recent research suggests working with well older people enhances perceptions and attitudes. Professional nursing bodies alongside education have a role to advance this understanding and consider like social work a set of capability statements for work with older people (British Association of Social Workers England (BASW) 2017).

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Conflicts of interest

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Ethical approval

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