Studying Pharmacy: who, when, how, why?

What next?

A Longitudinal Cohort Study of Pharmacy Careers

Early Choices Questionnaire

Report 4: Analysis of the Questionnaire

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1. Executive Summary

1.1 Background

i. This report presents findings of the first survey from A Longitudinal Cohort Study about Pharmacy Careers. This study aims to explore the early career development of 2006 GB pharmacy graduates. The study has been running since January 2004 and is due to finish in December 2008. The study has been funded by a grant from the Pharmacy Practice Research Trust.

ii. The survey – the Early Choices questionnaire – had an explicit focus on choices made prior to studying pharmacy, such as how, when, and why respondents' chose to study pharmacy. The survey also collected data about respondents' future pre-registration and work intentions.

iii. Early Choices was piloted with a sample of 2004 pharmacy graduates (n=400). It was administered to the 2006 cohort via a visit from members of the research team to each individual school of pharmacy. The cohort was approaching the end of the third year of their four year degree programme when they completed the survey. We hypothesized that at this time issues relating to career choice might be coming into focus for them, since third year students have to begin to make choices about where to do their pre-registration training at this point in the programme.

iv. With reminders, the response rate across the schools to the survey was 63% (range 21-97%). After consultation with the steering committee, the school with the lowest response rate was removed from the study, giving an overall response rate of 67%.

1.2 Profile of respondents

i. Nearly three-quarters of respondents (71.5%) were female. HESA data shows that when the cohort entered pharmacy school only 62.6% of the cohort was female, suggesting that within our sample, females were over-represented. However, what remains clear is that the feminisation of the profession will continue.

ii. Overall, 52.8% of respondents were white. However, non-whites were, proportionally, over-represented amongst male respondents (54.1% of whom were non-white) and under-represented amongst female respondents (44.5%). HESA data records 67.7% of the cohort as non-white, although HESA categorises white Irish students as non-white and our analysis includes white Irish within the 'white' category, making comparisons between the two datasets problematic.

iii. Amongst male respondents, the largest ethnic groups were: 32.8% white British, 22.6% Indian, 11.5% Pakistani, 8.9% white Irish, 4.8% black African, 4.5% Asian other, 4.1% Chinese. Amongst female respondents,

we found that 43.6% were white British, 18.1% Indian, 9.0% white Irish, 7.0% Pakistani, 6.1% black African, 4.1% Chinese. These figures demonstrate that the profile of pharmacists is set to become more ethnically diverse.

1.3 Choosing to study pharmacy

i. Questions in this section of the questionnaire were designed to measure respondents' career commitment, in terms of the ways individuals made their career choices.

ii. Almost two-thirds of respondents (63.7%) made the decision to study pharmacy at 17 and under – that is, before they had completed their A-levels. Proportionally, white females were the group who were most likely to make the decision at 17 and under (73.9%), followed by white males (62.4%), non-white females (59.8%) and non-white males (45.9%).

iii. 40% of respondents had no practical experience of pharmacy prior to starting their MPharm course. Gender was significantly related to those who had had pharmacy work experience: 76.6% of those who had had vacation experience in a community pharmacy and 80.9% of those who had had a Saturday job in a community or hospital pharmacy were female, yet females comprised only 71.5% of the sample. Non-whites were over-represented amongst those who had a relative who was a pharmacist (55.7%) than in the sample as a whole (47.2%).

iv. Less than one third (30.1%) of respondents said they did not discuss viable alternatives to going to university to study pharmacy. Females were more likely to have considered other degree courses than males (62.4% compared with 56.7% respectively); and more whites (66.8%) than non-whites (53.6%) also reported having discussed other degree courses.

v. Some ethnic minority groups were significantly less likely to have received non-career specific advice: we found that 46.2% of Pakistani, 43.8% of Asian other, and 42.1% of Bangladeshi respondents had not received any non-career specific advice, in contrast to 21.9% of black African and 26.4% of Indian respondents.

vi. Three-quarters of respondents said that pharmacy was their first choice of what to study at university (74.5%). For 83.9% of white females, 66.9% of non-white females, 80.4% of white males and 66.1% of non-white males pharmacy was a first choice. Age when decided to study pharmacy was statistically related to whether pharmacy was a respondent's first choice of undergraduate course: of those for whom pharmacy was the first choice, 73.3% made the decision to study pharmacy when they were 17 and under; and of those for whom pharmacy was not their first choice, 65.7% were aged 18 and over when they decided to study pharmacy.

vii. Most commonly used sources of information about pharmacy were: university prospectus (89.8%); UCAS (81.1%); a visit to a university open day (68.3%); careers adviser (62.8%); work experience (57.2%); a pharmacist (52.4%) and a relative (46.6%). While white respondents were most likely to value a visit to a university open day (21.8%) non-white respondents were most likely to value a relative as a source of information (17.7%).

viii. 74.3% of white males, 59.4% of non-white males, 81.3% of white females, and 58.6% of non-white females did not have a relative who was a pharmacist, differences which were all significant. Of those who did have pharmacists in the family, most respondents reported having an aunt or uncle who was a pharmacist (12%). While 8.3% of white males, 15.9% of non-white males, 7.2% of white females and 18.5% of non-white females had an aunt or uncle who was a pharmacist. In addition, whites were, proportionally, more likely to have considered that their family did not influence their decision to study pharmacy at all: 39.3% of whites said their family were no influence, compared with an average of 35.4% of all respondents and 31.1% of non-whites. Conversely, non-whites were more likely to have said that their family strongly influenced their decision to study pharmacy: 27.1% of non-whites, but only 16.5% of whites, said their family influenced their decision a great deal. We also found that 65.0% of those females who said that their family did not influence their decision to study pharmacy at all were white, but 62.8% of those females who said that their family had influenced their decision a great deal were non-white.

ix. Both extrinsic and intrinsic motivators were found to have influenced respondents' decision to study pharmacy: more than half of respondents chose to study pharmacy because it was a science-based course (79.0% of respondents); because pharmacy offered good career opportunities (69.7%); because pharmacy was a respected profession (69.0%); because they wanted to help people (65.4%); because pharmacy was perceived as providing a well paid career (51.8%); and because they wanted to work with patients (50.7%). When data were analysed relating to respondents' selection of the most influential item on their choice, the three items with the largest frequencies were: I wanted to do a science based course (24.7%); didn't want to study medicine but wanted to work in a health related field (11.8%); wanted to work in a well respected profession (9.1%). Wanting to study a science-based course was the most influential factor across both genders and collapsed ethnic groups. Looking at some of the items which smaller proportions selected as most influential, proportionally more non-white males were influenced by extrinsic factors such as pharmacy being a respected profession and items such as the opportunity to open business – but for females the influence of the family was significant.

1.4 Choosing an institution

i. This section in the questionnaire was designed to explore a different but related set of Early Choices – choices made about the university respondents were attending at the time of completing the questionnaire.

ii. Overall, 60.8% of respondents were strongly influenced by the reputation of the course itself. However, qualitative differences in terms of the types of factors – and the relative strength of influence of factors – influencing the choice of institution were found according to the gender and ethnicity of respondents. For example, liking the university itself and the reputation of the university strongly influenced a significantly larger proportion of female than male respondents (45.9% of female respondents compared with 37.7% of male respondents were strongly influenced by liking the university itself; and the reputation of the university strongly influenced 38.6% of male respondents but 44.9% of female respondents). Factors that proportionally strongly influenced more non-white respondents were: having a relative who was already studying at the university (which strongly influenced 8.4% of non-white and 4.5% of white respondents); and not an issue because the place was obtained through clearing (16.1% of non-whites were strongly influenced by this compared with only 6.2% of whites). Two factors were the most influential for both male and female and white and non-white respondents – reputation of the course and proximity to family/home.

iii. Almost three-quarters of respondents (73.4%) had visited the university where they were studying prior to deciding to study there. Significantly larger proportions of white females than non-white females visited the university prior to deciding to study there (82.6% compared with 66.1%), a trend also found amongst male respondents, where 77.1% of white males but only 62.9% of non-white males had visited their university in advance of deciding to study pharmacy there. Amongst those for whom pharmacy was not their first choice of undergraduate degree 40.9% had also not visited the university prior to choosing to study there.

iv. 85.8% of respondents applied to university through UCAS, 4.4% applied direct to the university, and 9.8% applied through clearing. Looking at those respondents who applied through clearing, it can be seen that although only 2.9% of white males, and 3.4% of white females, applied to university through cleaning, much larger proportion of both non-white males (19.5%) and non-white females (16.3%) applied using this method. Method of application to university and the age at which respondents first decided to study pharmacy were also significantly related, with 64.9% of those who applied through clearing making the decision to study pharmacy at 18 and over; and 68.5% of those who applied through UCAS made the decision to study pharmacy at 17 and under.

v. More than three-quarters (79.2%) of respondents said that their desire to study pharmacy had been very strong or strong when they entered their

school of pharmacy. Proportionally, white males were most likely to have described their desire to study pharmacy as strong/very strong on entry to pharmacy school (84.0%) – this compares with 80.6% of white females, 78.8% of non-white females and 72.8% of non-white males. Respondents who applied through clearing were more likely to have had a weak or moderate desire to study pharmacy than in the sample as a whole (41.1% compared with 20.8%). Amongst those who chose to study pharmacy because they had always wanted to be a pharmacist 98.0% had a strong desire to study pharmacy when they entered pharmacy school.

vi. Half (50.0%) of respondents said that on entering pharmacy school they hoped to work in the community sector on graduation, and a further 18.2% in hospital pharmacy.

vii. More than three-quarters of respondents (78.3%) said that the pharmacy degree was either very or quite similar to what they expected. Those who had no practical experience of pharmacy before they entered pharmacy school were more likely than the sample as a whole to say that they were not sure what to expect from the pharmacy degree.

viii. Male students were more likely to have repeated some exams while at pharmacy school than female students (53.2% compared with 39.4%) and non-white students more likely (50.0%) than white students (36.3%). Those who applied to study pharmacy through clearing were also more likely to have repeated exams than in the sample as a whole (56.3% compared with 43.3%).

ix. Around one-fifth (19.8%) of respondents had considered changing courses or dropping out – and this figure was significantly higher for white males (26.6%). The most frequently given reason was academic difficulties.

1.5 Choices about working after graduation

i. This section in the questionnaire focused on respondents' expectations for their future immediately after graduation. It collected data relating to choices for pre-registration training and the processes involved in making these choices.

ii. More than 90% (92.7%) of respondents said that they intended to go straight into their pre-registration training. The minority of respondents who did not want to go straight into their pre-registration training had lower levels of commitment to remaining in the profession than the sample as a whole and were less decided about the nature or direction their future careers would take.

iii. Overall, just over half (52.2%) of respondents had a clear idea about the branch of the profession they wanted to work in once they had qualified. However, males were more likely to say that they had no clear intention

(13.1%) than females (6.4%), as were non-whites when compared with whites (where 9.9% and 6.6% respectively had no clear intention of the branch of the profession they wanted to work in as a pharmacist)

iv. Analysis of preferences for pre-registration training post showed that approximately equal proportions of respondents wanted to train in the hospital (43.5%) and community (45.1%) sectors. More female (46.1%) than male (36.7%) students wanted to train in hospital pharmacy, suggesting that the gender niche-ing of hospital pharmacy is prevalent during early career choices. Hospital pharmacy was more popular amongst white than non-white respondents for pre-registration training (with 48.5% of whites compared with 38.4% of non-whites wanting to train in the hospital sector).

v. Most respondents (85.6%) expected it would be difficult to secure their first choice of pre-registration training post – and this figure varied considerably according to ethnicity, with 92.0% of white Irish, 91.3% of Chinese but only 65.0% of black African expecting it to be difficult.

vi. 80.3% of respondents studying in Scotland wanted to remain in Scotland for their pre-registration training post, 52.9% of those studying in Wales wanted to remain in Wales and of those studying in England the most popular regions were: London (21.8%), the north west (17.3%), the west midlands (13.7%), the south east (10.8%) and the east midlands (8.1). The general trend was for the largest proportion of students at each school of pharmacy to want to remain in the same region in which they had studied. Where students intended to move they usually hoped to complete their training in London.

vii. Respondents' choices of pre-registration training post were influenced by both intrinsic and extrinsic factors, with the balance of factors towards extrinsic motivators – with 60.5% of respondents being strongly influenced by career and promotion prospects, 47.3% by the reputation of a particular pharmacy company, 38.2% by working conditions and 38.1% by future financial prospects.

1.6 Early career intentions

i. The final section of the Early Choices survey explored respondents' early career intentions. It also contained a series of attitude statements designed to capture how respondents conceptualised a pharmacy career and their views on working as a pharmacist.

ii. Since respondents could be 'certain' about more than one career choice for 10 years time, data relating to career intentions show that many respondents were certain that they wanted more than one career – hence 60.3% were certain they wanted a career in hospital pharmacy, 50.5% with a large multiple community pharmacy, 43.0% to practice pharmacy abroad, 37.3% in primary care, and 32.7% wanted a future pharmacy career where they could own their own community pharmacy

business. In relation to entrepreneurial career intentions, significantly more male (44.2%) than female (28.0%) respondents were certain that they wanted this type of future pharmacy career – and more non-white (39.4%) than white (25.8%) respondents intended to have an entrepreneurial career in community pharmacy. We also found evidence that gender niche-ing will perpetuate, with 63.0% of females compared with 53.3% of male respondents being certain that they wanted a career in hospital pharmacy. In addition, career intentions for 10 years time were related to career intentions on entry to pharmacy school – of those who were certain that they wanted a career in hospital pharmacy 93.6% had identified hospital pharmacy as their intended career path on entry to university. Finally, we found that many respondents wanted a pre-registration post in the same sector as their longer-term career intentions, with 63.0% of those who wanted to work in hospital pharmacy also hoping to undertake their pre-registration training in hospital pharmacy.

iii. While 33.3% of male respondents expect to work full-time until retirement – and a further 25.9% to work full-time but aim to retire early – large proportions of female respondents expect to interrupt their pattern of work to take statutory maternity leave (31.1%), or to work full-time with periods of working part-time (18.5%), or to work full-time early on but to work part-time later (20.1%).

iv. Only 8.1% of respondents said that they did not expect to have career breaks during their career – and 46.7% said they expected to have a career break to start a family, 38.0% to travel abroad, 19.6% to work abroad, and 10.7% to study.

v. In relation to respondents' attitudes towards pharmacy, statements which the largest proportions agreed with were: I expect to work very hard (51.0%), I am very ambitious about my pharmacy career (35.6%), career prospects in pharmacy are becoming more attractive (34.1%), there are lots of career opportunities in pharmacy (31.6%) and I see pharmacy as a career until I retire (29.9%). We found there were no significant gender differences in terms of respondents' expectations to work hard in their career; ambitions for their career; or whether they saw pharmacy as a career until retirement. But, significantly, female students were more likely to believe that career prospects in pharmacy were becoming more attractive (85.8% of female students compared to 70.3% of male students agreed or strongly agreed with this statement). Once again, we found evidence that male respondents were more likely than females to have entrepreneurial intentions, with 49.8% of male respondents compared with 31.9% of female respondents agreeing/strongly agreeing with the statement 'I am keen to open my own pharmacy business'. Furthermore, when the statement was analysed in relation to ethnicity, we found that 46.1% of non-whites compared with 28.0% of whites agree/strongly agreed with the statement.

1.7 Concluding remarks

i. This report contains analysis of data collected for a unique national longitudinal study of pharmacy careers. This study tracks the same group of people – or cohort – over a period of several years.

ii. Results presented here explored aspects of respondents' career commitment. These aspects were operationalised in relation to choices students had made prior to starting their degree, such as the age they decided to study pharmacy and the method of applying to study pharmacy, and their desire to study pharmacy when they entered pharmacy school. Results also explored preferences for where the cohort wanted to do their pre-registration training post, where they wanted to work in the future and the pattern of work (including intentions to have career breaks) of the sample.

iii. We have shown that differences exist in how, why, and when respondents in the cohort made their early (pharmacy career) choices, and that differences in, for example, the entry pathways of some groups indicate that at the start of the MPharm course some groups also had different motivations and expectations of the course and their pharmacy careers.

iv. The picture, then, emerging from the data is of some groups of respondents choosing to study pharmacy later than others, and some groups being more likely of applying through clearing than others. With the benefit of a longitudinal study design, we will be able to track whether these aspects of early career commitment have an effect on subsequent pharmacy career choices and commitment to the profession.

v. The majority of students in the sample intended to go straight into pre-registration training in the UK, and most respondents expected it to be difficult to secure their first choice of pre-registration training post.

vi. Only around a quarter (25.5%) of the cohort expected to work full-time until retirement. The vast majority also expected to take a career break. Taken together, these results have serious implications for the future supply of pharmacists, and represent challenges for both workforce planners and pharmacy employers.

vii. However, these intentions for patterns of work and career breaks do not imply that the cohort is not committed to a career in pharmacy. We found that there was a general consensus amongst respondents in terms of their attitudes to pharmacy as a profession – and respondents were generally positive about the future, although a small proportion appeared to be adrift and weakly committed to their future pharmacy careers.

2. Introduction

In this report an analysis of the Early Choices questionnaire is presented. The Early Choices questionnaire was the first survey developed for a longitudinal cohort study of pharmacy careers that aims to explore the early career development of 2006 GB pharmacy graduates. Longitudinal studies provide data about the same individual at different points in time, allowing a programme of research to track change at the individual level. Furthermore, cohort studies involve following a sample to explore their different trajectories as they age, and allow the exploration of the ways that experiences and behaviour are influenced by the wider social and economic contexts in which members of the cohort find themselves – and perhaps how they in turn influence those contexts – giving these kind of studies a major role in understanding social change.

The purpose of our own study is to understand more about employment patterns, and pharmacists' early career choices and levels of job satisfaction, and the relationship between both personal influences (such as the influences of undergraduate teaching and learning experiences) and more structural aspects (such as the influence of opportunities to work in a particular sector of the pharmacy workforce). The rationale for conducting this particular longitudinal study is to address a gap in pharmacy workforce knowledge, for while there is evidence that careers in pharmacy vary with gender, age, life events and ethnicity, little is known about why this variation occurs or at what point these variables have an effect on careers in pharmacy. Furthermore, data exist about where pharmacists are working at particular points in time, but no studies have followed the same group over a period of years to see how expectations of a career in pharmacy and career intentions can change over time.

The Early Choices questionnaire was a lengthy survey containing a combination of question styles for generating primarily quantitative data. This report introduces the broad conceptual framework of the questionnaire and how this is operationalised in the survey as a whole.

Essentially, this report focuses on aspects of early choices relating to how respondents chose to study pharmacy, and on respondents' conceptualisation of a pharmacy career and working as a pharmacist. Thematically, these aspects fit well together, since, in essence, they answer the questions about studying pharmacy in terms of ***who*** the respondents were; ***when*** they chose to study pharmacy; ***how*** they made this choice; and ***why*** they made this decision. Results are also presented relating to expected career paths, pre-registration intentions, and anticipated work patterns.

3. Content of the Early Choices questionnaire

The Early Choices questionnaire was constructed around the concept of 'occupational awareness' – a concept this study defined as being about how people's views of a particular career are informed and shaped. The Early Choices questionnaire was designed to collect data relating to several components of occupational awareness: *why* students have chosen to study pharmacy (that is, the reasons for choosing to study pharmacy); *when* students made this choice; and *how* it was chosen. Questions that operationalised these components were included in the survey to provide an indication of the influences on the early choices made by pharmacy students – influences which can, at a later date, be evaluated in terms of whether they have any predictive value in assessing which sector of practice students enter, or whether they leave the profession early.

The questionnaire also gathered data on choices made about the particular institution students had chosen to study at, and about their career intentions after completing their degree.

The questionnaire was sequentially structured so as to follow a logical order of career events, starting with choosing to study pharmacy, and then moved through a series of other events, ending with early career intentions. More detail on the rationale for the questions can be found in Appendix 1, but briefly the questionnaire included the following sections:

Section A: Choosing to study pharmacy
This section focused on respondents' appreciation for and understanding of a career in pharmacy, and sought to clarify whether students had made an informed choice of career, and the impact of a range of factors on this choice such as occupational inheritance (that is, same parent–child occupations).

Section B: Choosing an institution
Questions here were included to collect data relating to the influences on students' choice of institution and method of application. Also included in this section were questions to measure the career commitment and career choices of respondents before they enter the profession as qualified pharmacists.

Section C: Choices after graduation
Questions in this section identified those not planning to do their pre-registration training, and for those who are, the influences on their choice of pre-registration training post.

Section D: Early career intentions
Intentions recorded here can be compared with practice at later points in time. Attitudes to being a pharmacist were also explored in this section, with the aim of exploring how respondents conceptualised pharmacy as a career and their views on what working as a pharmacist may consist of.

The questionnaire also contained a section to collect demographic data to

ensure that all records of respondents were as complete, consistent, and comprehensive as possible.

Construction of many of the questions in the Early Choices questionnaire was informed by a series of focus groups held with 2004 graduates. The results of these focus groups have been summarised in 2 reports (Report 1: *With a pharmacy degree you know where you're heading* – A report on focus groups with undergraduate pharmacists exploring their views of a career in pharmacy; and Report 2: *Early Choices Questionnaire* – Using Focus Groups to Inform Tool Design and Construction).

Since the Early Choices questionnaire generated a very large set of data, this report contains analysis relating to respondents' occupational awareness. It presents an analysis of data relating to how respondents chose to study pharmacy. The report also explores some aspects of career commitment arising from an analysis of a set of attitude statements to see what they can tell us about respondents' conceptualisation of a pharmacy career and working as a pharmacist. As part of this analysis, we present data relating to a small proportion of respondents who appear to have drifted into the profession. We examine the major characteristics of these drifters and other sub-groups within the data set who do not appear to have a strong commitment to the profession.

Results relating to expected career paths, pre-registration intentions, and anticipated work patterns are also contained in this report.

4. Piloting the questionnaire

Development of the questionnaire involved piloting an earlier version to approximately 400 members of the 2004 cohort of pharmacy graduates. The response rate to this pilot questionnaire was 64%. Key findings from the pilot data can be found in Appendix 2. This analysis was briefly presented to the Pharmacy Practice Research Trust Steering Group meeting held in June 2005 at the RPSGB in London, and can be found in Report 3: *Early Choices Questionnaire* – Piloting the Questionnaire.

The piloting was undertaken to evaluate the validity of the research tool: it involved evaluating the appropriateness, meaningfulness, and usefulness of inferences from both the design of the questionnaire and the responses to questions. Piloting the questionnaire allowed the team to establish the face validity of the tool (to see whether "on its face" it seems like a good translation of the construct – occupational awareness – being investigated) by asking individuals similar to our population of interest (that is, using the 2004 graduates to act as a test population before using any tools with the 2006 graduates). We were also able to evaluate the tool's content validity by getting the Project Management Team to assess the operationalisation of the construct against the relevant content domain for the construct. The theory behind content validity, as opposed to face validity, is that experts are aware of nuances in the construct. However, in essence, both of those validity types are attempting to assess the degree to which we have accurately translated the construct into the operationalisation.

The pilot questionnaire incorporated a feedback form asking respondents to comment on the questions in the questionnaire and on its general content. In total, 241 comments were written on the feedback forms. The overwhelming majority of comments were positive about the questionnaire – and, in fact, several reported finding that completing the questionnaire had helped them to think more clearly about their future pharmacy career. Many respondents chose to use the feedback form to elaborate on their responses given in the questionnaire and to make general comments reflecting their conceptualizations of a career in pharmacy. Content analysis of feedback on specific questions was undertaken, and used to revise the design of the Early Choices questionnaire for the 2006 cohort.

5. Distribution

The cohort of pharmacy students being studied by this project is made up of individuals who will graduate from the MPharm course in 2006 and who are studying at GB schools of pharmacy. At the time of completing the Early Choices questionnaire the cohort were coming to the end of the third year of their four year degree. Since the students were based at a school of pharmacy – and in order to maximize the response rate for the survey – the team arranged to visit each of the 15 schools of pharmacy to administer the questionnaire directly to the cohort. After this visit the research team received completed Early Choices questionnaires from 53% of the cohort. To help boost the overall response rate the team also deployed various strategies, including:

i. Having an email sent to the year group as a whole by the students' own institution urging them to complete and return their questionnaire using a FREEPOST address.

ii. Asking contacts with staff in the schools to chase up students not present in the lecture and distribute the questionnaire on the team's behalf.

iii. Using a consent form completed by students during a previous visit to the schools where the team gave a presentation about the study to chase up non-respondents. A total of 3 follow-up mailings were sent to non-respondents.

iv. Sending an email reminder using the email addresses given on the consent forms to 'prime' non-respondents about any reminders they may be about to receive.

As a result of these combined strategies, the response rates improved in most schools of pharmacy, with completed questionnaires returned from 63% of the cohort. However, as can be seen in Figure 1, this overall response rate was not achieved across all schools of pharmacy; the range was 21-97%.

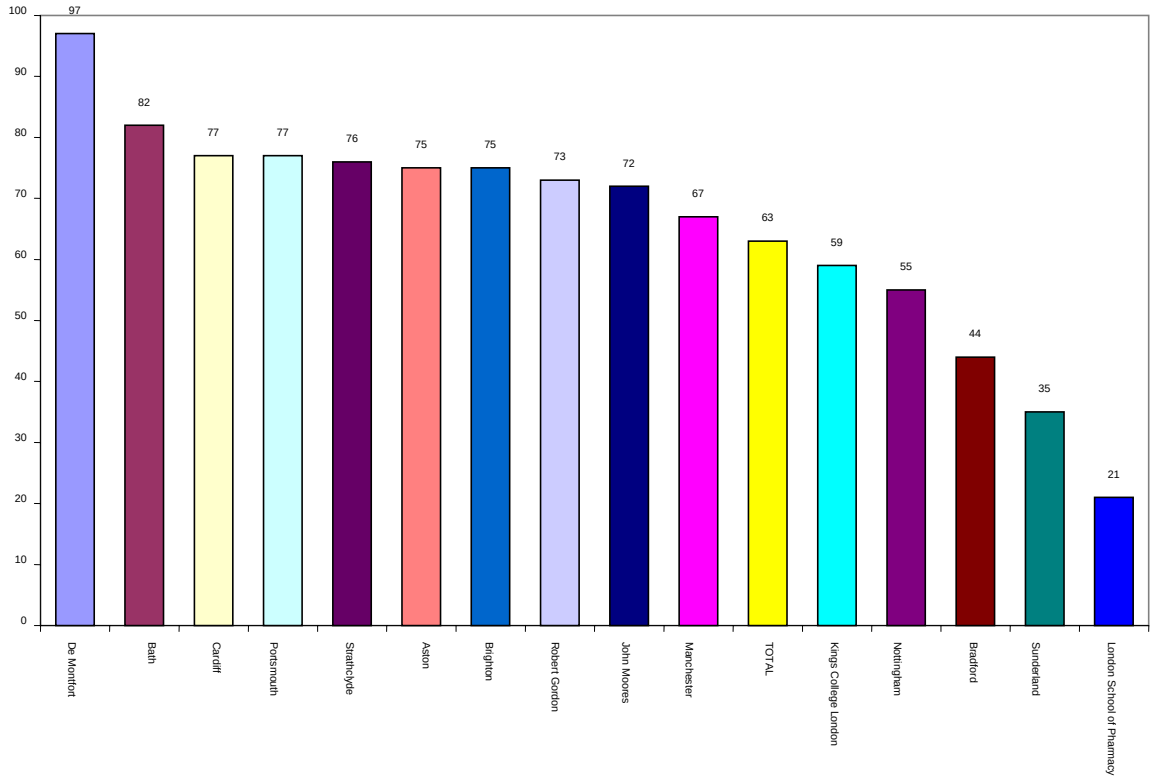

Figure 1: % completing the Early Choices questionnaire during a school visit and in response to follow-up

After a meeting between the research team and the steering group constituted by the Trust of the RPSGB to oversee and advise on the study a decision was made to proceed with the study overall, but to exclude the school with the lowest response rate (the London School of Pharmacy) from further surveys.

Removing the London School of Pharmacy from the study means that out of a sample of 1729 students, 1159 completed the Early Choices questionnaire, giving a response rate of 67%.

6. Analysis of the data

In order to get a good understanding of who the respondents to the Early Choices questionnaire were, and to contextualise some of the implications of our sample, our analysis of the data begins with a quite lengthy exposition of the profile of the respondents. The extensive profiling of the respondents provides insight into the question about ***who*** was studying pharmacy. Once this is completed, subsequent sections of the report present the results of the survey in relation to the gender and ethnicity of the respondents, and – where relevant or statistically significant – relationships with other variables are explored.

6.1 Profile of respondents

All schools of pharmacy were asked to provide the team with demographic data for those students graduating in 2006 (comprising date of birth; gender; and ethnicity). The majority of schools failed to provide this, and asked for respondents to disclose this data themselves instead. This means that it is difficult to know how representative those completing the survey are of the cohort as a whole, since we have no demographic data for non-respondents with which to make any comparison against those who have responded. The authors of this report accept that we can only make claims about who the respondents to the survey are, rather than about the whole of the 2006 cohort.

However, the research team purchased data from HESA services which gives gender, ethnicity, and institution of study of first year degree students for the academic year 2002/03 studying pharmacology, toxicology and pharmacy. The academic year 2002/03 is the year when most of the cohort would have begun studying for their MPharm. From this data set it is possible to extract those studying at an enhanced first degree level with an expected length of study of 4 years, and to assume that this data most accurately correlates to students on the MPharm course, since pharmaceutical sciences, and many other courses in the HESA data set, are studied as 3 year bachelor degree programmes. However, the HESA data set is not totally reliable: for example, it only lists 9 students studying in Wales, and none of these 9 students are beginning a 4-year degree. The authors of this report accept that there are limitations with making any comparisons, and that this report uses the data for comparative purposes only and refers to it in the text as HESA 2002/03 data.

6.11 Gender of respondents

As stated, comparisons between respondents to the Early Choices questionnaire and the other data sets are far from straightforward. However, despite the acknowledged limitations associated with using the HESA 2002/03 data, this data is presented alongside respondents to our study. In addition, gender of registered pharmacists from the 2003 RPSGB census is also given in Table 1.

Table 1: Gender of respondents – Early Choices, HESA 2002/03, RPSGB census 2003

	EARLY CHOICES	HESA 2002/03	RPSGB CENSUS 2003
Male	28.5	36.7	47.1
Female	71.5	63.3	52.9

Although there is the caveat of incomplete data in the HESA 2002/03 data, it is interesting to note that the proportion of female students in the cohort appears to have increased between year 1 and year 3 of the MPharm course.

The high proportion of women who responded to our survey reflects the trend reported in analysis of the 2003 census, which demonstrated that, proportionally, increasing numbers of women are qualifying as pharmacists. In fact, the census reported that 64% of new entries onto the Register of practising pharmacists in 2003 were female. To put this figure into some kind of context, recent analysis of contemporary workforce patterns and historical trends showed that while women represented just 19% of registered pharmacists in 1964, this figure had grown by more than 300% by 2001, at which time women constituted the majority of pharmacists on the pharmaceutical register.[1] Our data indicate that this feminisation trend of the workforce will continue. Our data also suggest that – in the future – pharmacy as a profession will be further feminised as women's participation in the pharmacy workforce increases.

The rapid feminisation of pharmacy over the last fifty years has been associated with occupational change, and in particular with changes in pharmacy practice.[2,3] Several topics relating to feminisation in the literature raise questions including: commitment to the profession; working patterns; reasons for entering the profession; and professional profile. A full discussion of these topics is beyond the scope of this report, and an analysis of some of the implications of the feminisation of the future pharmacy workforce appears in Bulletin 1, which is included with this report as Appendix 3. Some issues, such as commitment to the profession, will be discussed in relation to analyses of relevant data such as a series of attitude statements included in

Early Choices to measure respondents' career commitment. Other, more theoretical issues, such as the impact of feminisation on the profession, are being researched by colleagues in the Centre for Pharmacy Workforce Studies. However, much of the literature on the feminisation of pharmacy is inconclusive – for example, the impact of feminisation on the status of the profession is not clear cut, and there is little irrefutable evidence that the entrance of large numbers of women into pharmacy has (in and of itself) led to an erosion of professional status.

While large numbers of women have entered pharmacy – and will continue to enter the profession – there is evidence that gendered occupational segregation may result in some sectors of the profession becoming 'gender niches', a term describing an area of specialism in which a gender is significantly more likely to be employed than in other areas of the profession.[4] This gendered occupational segmentation has been found to contribute to a gender pay gap in other studies of graduates, where it has been calculated that women working in jobs which are mainly or exclusively carried out by women earn on average 6-7% less than those working in comparable jobs in gender mixed workplaces.[5]

The question of why female students are choosing to study pharmacy in increasing numbers remains unanswered, and there are several different theoretical explanations of why this might be occurring. For some, such as Crompton and Sanderson[5], the explanation lies in the rising qualification levels among girls. Another explanation proposes that women choose to study pharmacy because they hold a particular set of work and social values that directly influence their choice of undergraduate degree course and subsequent career. For example, Hakim[6,7] argues that women exercise an identifiable range of different rational choices throughout their education and early careers in the light of their lifestyle and gender-role preferences. Hakim's claims have some parallels with the results of a series of focus groups conducted during the first year of this study which found that many students choose to study pharmacy because a career in pharmacy offers the opportunity of flexible working. Flexibility for participants in our focus groups related to moving between sectors of the pharmacy labour market as well as to flexibility in conditions of work (such as the opportunity to work part-time and to locum). Placing an onus on the desire for a flexible career can be seen as an instance of making a career choice in terms of expectations of a particular lifestyle the students aspire to have in the future – and is often characterised as especially relevant to women. Other explanations of why women choose to study pharmacy focus on structural features which constrain women's choices, making some subjects – such as biological sciences as opposed to engineering – appear more comfortable or suitable for female students.[8] An exploration of reasons for choosing to study pharmacy for the respondents to our study is presented in section 6.28 of this report.

Although women's participation in the pharmacy workforce is rising, analysis of the 2003 census data reveals variation in participation according to the country in which a pharmacist is registered. Male pharmacists were found to be under-represented in Scotland, where they represent 37% of the workforce

compared with around half of registered pharmacists in England and Wales. Looking at aggregated data from our sample according to the country in which they were studying, this picture is not mirrored but almost reversed: male students were under-represented in Wales and over-represented in Scotland (21.1% and 30.5% respectively). Table 2 shows this comparison of respondents to Early Choices by country studying in, registered pharmacists by country of registered address from the 2003 census, and the HESA 2002/03 data (although there is, as previously stated, the caveat of difficulties of using these data sources for comparative purposes).

Table 2: Gender by country – Early Choices, HESA 2002/03, RPSGB census 2003

	ENGLAND – EARLY CHOICES	ENGLAND – HESA 2002/03	ENGLAND – RPSGB CENSUS 2003	SCOTLAND – EARLY CHOICES	SCOTLAND – HESA 2002/03	SCOTLAND – RPSGB CENSUS 2003	WALES – EARLY CHOICES	WALES – HESA 2002/03	WALES – RPSGB 2003 CENSUS	TOTAL EARLY CHOICES	TOTAL HESA 2002/03	TOTAL RPSGB CENSUS 2003
Male	28.6	37.4	48	30.5	32.4	37	21.1	missing	50	28.5	36	47.1
Female	71.4	62.6	52	69.5	67.6	63	78.9	missing	50	71.5	64	52.9

The trend observed in Table 2 presents an interesting counter-balance to the census data: it is possible that male students in Scotland are more geographically mobile on graduation and therefore more likely to be registered in a different country to the one they studied in. This pattern will become evident as the study progresses, and is a reminder of the benefits of collecting data longitudinally.

Moving now to looking at the gender of respondents to the Early Choices questionnaire in more detail, it is of note that proportions of male and female students varied by school of pharmacy (Table 3). The school with the highest response rate to the survey (Leicester) also had one of the highest proportions of male third year students completing the questionnaire – this may indicate that at other schools male students were under-represented as respondents. However, one school with a low response rate (Sunderland) also had a larger than average proportion of male respondents, suggesting that it is both difficult to make assumptions about non-respondents based on those who have completed the survey, and that it is difficult to make assumptions about the gender mix of one school on the basis of the gender mix at another.

Table 3: Gender of respondents by institution

					ENGLAND								SCOTLAND	WALES	
	Aston	**Bath**	**Bradford**	**Brighton**	**De Montfort**	**John Moores**	**Kings College**	**Manchester**	**Nottingham**	**Portsmouth**	**Sunderland**	**Robert Gordon**	**Strathclyde**	**Cardiff**	TOTAL
Male	30.2	20.4	31.1	23.4	42.7	31.0	16.7	25.3	22.9	28.6	44.2	35.6	24.4	21.1	28.5
Female	69.8	79.6	68.9	76.6	57.3	69.0	83.3	74.7	77.1	71.4	55.8	64.4	75.6	78.9	71.5

In order to provide a comparison with the gender composition of respondents to our survey in relation to the institution they are studying at, Table 4 shows gender by institution from the HESA data.

Table 4 shows that those schools with the highest proportion of male respondents to Early Choices (Sunderland and Leicester) also have the highest proportion of male students in the HESA 2002/03 data set. Conversely, the school that had the lowest proportion of male students responding to the Early Choices questionnaire (London – Kings) also has the lowest proportion of male students in the HESA data set (although there is the previously noted caveat of problems of comparing the 2 data sets).

Table 4: Gender by institution – HESA 2002/03

					ENGLAND								SCOTLAND	WALES	
	Aston	**Bath**	**Bradford**	**Brighton**	**De Montfort**	**John Moores**	**Kings College**	**Manchester**	**Nottingham**	**Portsmouth**	**Sunderland**	**Robert Gordon**	**Strathclyde**	**Cardiff**	TOTAL
Male	38.5	27.6	47.4	35.5	47.5	35.4	25.5	31.0	30.6	33.6	48.3	36.0	29.0	missing	36.7
Female	61.5	72.4	52.6	64.5	52.5	64.6	74.5	69.0	69.4	66.4	51.7	64.0	71.0	missing	63.3

From the data in Tables 3 and 4 it therefore appears that the gender mix of both data sets varies by institution.

6.12 Ethnicity of respondents

Once again, this data is presented with two comparisons to provide some kind of context. Following this, ethnicity of the sample is shown according to ethnic group given by respondents on the Early Choices questionnaire; analysis is then presented showing ethnic group by the country of study and by school of pharmacy.

Table 5: Ethnicity of respondents – Early Choices, HESA 2002/03, RPSGB census 2003

	EARLY CHOICES	HESA 2002/03	RPSGB CENSUS 2003
White	52.8	36.6	79
Non-white	47.2	67.7	19.5

Differences between the proportions of white and non-white amongst respondents to the Early Choices survey and proportions of white and non-white amongst the HESA 2002/03 data sets are striking: but in this instance it can at least in part be attributed to differences in methods of recording ethnicity in the data sets. This is because while HESA reports non-UK domicile as a separate ethnic category (which is collapsed into non-white in Table 5) our respondents were asked to give their ethnic group, which means that students such as white Irish will appear in our dataset as white but in the HESA 2002/03 dataset as non-white. This means that there are marked limitations to any conclusions that may be drawn from comparison between the data sets in terms of ethnicity.

Looking at ethnicity in more detail, it can be seen that the largest ethnic group of respondents, proportionally, were white British (40.6%). Table 6 shows the ethnicity of the cohort.

Table 6: Ethnicity of respondents

White British	White Irish	White Other	Black Caribbean	Black African	Black Other	White & Black Caribbean	White & Black African	White & Asian	Mixed Other	Indian	Pakistani	Bangladeshi	Asian Other	Chinese	Other
40.6	9.0	3.2	0.3	5.7	0.4	0.2	0.1	0.4	0.4	19.4	8.3	1.7	2.9	4.1	3.3

However, what is clear from Tables 5 and 6 is that the proportion of ethnic minority pharmacists is set to rise from the levels recorded in the 2003 pharmacy workforce census. The pattern of increased participation by ethnic minorities has been noted by other recent historical and comparative analysis of the pharmacy workforce, where a growth in ethnic minority pharmacists was observed, up from 15% of qualifiers in 1975 to 23% of qualifiers in 1991.[9] In addition, and in parallel to this growth amongst ethnic minorities qualifying as pharmacists, the same study also notes a drop amongst white males qualifying as pharmacists, with the result that the proportion of ethnic minority pharmacists among the males was found to be high (at 35% of males qualifying in 1991). This growth in the proportion of ethnic minority pharmacists is especially remarkable in view of the fact that the 2001 census found that the total non-white population in England to be only 9.1%.[10]

Part of the recent trend in the growth amongst ethnic minorities qualifying as pharmacists found by Hassell *et al*[9] can be attributed to differences in the age profiles between the white and non-white population. Because despite representing a low overall proportion of the population, ethnic minorities tend to have a higher proportion of younger people than the population as a whole: around half of Muslims (53%), two-fifths of Sikhs (41%) and over a third of Hindus (36%) are aged under 25. This compares with a third (31%) of the population as a whole.[10]

And the distribution of white and non-white groups is not evenly spread across the UK: London contains more than three times the (national) average population of non-white groups (28.8% of the population of London is non-white, compared with the average of 9.1%), followed by the West Midlands, which is closer to the average. All the other regions contain below average proportions.[10] Scotland, with an ethnic minority population of just 2%, has a larger white population, proportionally, than England (with a non-white population of 9.1%) or Wales (where 96% of the population gave their ethnic origin as White British in the 2001 census).[11]

From the 2001 national census data given above we can therefore predict that the proportion of non-white students should be lowest in Scotland and highest in England if we make the assumption that most students will study in their country of origin. The breakdown of ethnicity of respondents to the Early Choices survey by country studying in is given in Table 7, and – as can be seen from this Table – confirms the prediction that there is a correlation between the ethnicity of the population of a country and the ethnicity of students in our sample by the country they are studying in.

Table 7: Ethnicity of respondents by country studying in

	ENGLAND	SCOTLAND	WALES	TOTAL
White	43.1	89.9	78.3	52.8
Non-white	56.9	10.1	21.7	47.2

As with gender, however, there are big differences between institutions: here the relative proportions of the two categories of white and non-white ranged from 88.3% of respondents who described themselves as white at Aberdeen to 92.5% of respondents who described their ethnic background as non-white at Leicester (Table 8).

Table 8: Ethnicity of respondents by institution

					ENGLAND								SCOTLAND	WALES	
	Aston	Bath	Bradford	Brighton	De Montfort	John Moores	Kings College	Manchester	Nottingham	Portsmouth	Sunderland	Robert Gordon	Strathclyde	Cardiff	TOTAL
White	23.8	79.3	40.3	62.2	7.5	64.2	18.9	44.7	60.8	26.8	51.3	88.3	91.8	78.3	52.8
Non-White	76.2	20.7	59.7	37.8	92.5	35.8	81.1	55.3	39.2	73.2	48.7	11.7	8.2	21.7	47.2

Comparing the results in Table 8 with the 2001 national census suggests that the high proportion of non-whites in the sample attending Leicester, London Kings and Aston is once again a reflection of the local populations: of the local authority districts with a high concentration of (non-white) ethnic minority groups, 16 are London boroughs, while both Leicester and Birmingham appear in the list of the 20 districts in England and Wales with the largest non-white populations. The influence of proximity to family on choice of school of pharmacy is reported in a later section of this report, but from the data presented here it appears that there may be a correlation between ethnicity, school of pharmacy, and the local population.

Looking at ethnicity and gender by each institution now, it can once again be seen that the profile of students varied greatly according to the school of pharmacy attended.

Table 9: Gender and ethnicity of respondents by school of pharmacy

Male	Aston	Bath	Bradford	Brighton	De Montfort	John Moores	Kings College	Manchester	Nottingham	Portsmouth	Sunderland	Robert Gordon	Strathclyde	Cardiff	TOTAL
White	23.3	84.2	30.4	61.1	5.1	44.0	25.0	45.5	66.7	17.9	56.6	70.6	86.4	76.9	45.9
Non-White	76.7	15.8	69.4	38.1	94.9	56.0	75.0	54.5	33.3	82.1	43.8	29.4	13.6	23.1	54.1
Female	**Aston**	**Bath**	**Bradford**	**Brighton**	**De Montfort**	**John Moores**	**Kings College**	**Manchester**	**Nottingham**	**Portsmouth**	**Sunderland**	**Robert Gordon**	**Strathclyde**	**Cardiff**	**TOTAL**
White	24.3	78.1	44.9	62.5	9.3	73.2	17.8	44.4	59.0	26.8	47.8	98.3	93.8	78.6	55.5
Non-White	75.7	21.9	55.1	37.5	90.7	26.8	82.2	55.6	41.0	73.2	52.0	1.7	6.3	21.4	44.5

A more detailed breakdown of the gender and ethnic profiles of respondents at each institution can be found in Appendix 5 of this report. However, to give some indication of the gender and ethnicity of respondents in the cohort as a whole, Table 10 shows the significant differences between gender and ethnic group of respondents.

Table 10: Gender and ethnicity of respondents

	White British	White Irish	White Other	Black Caribbean	Black African	Black Other	White & Black Caribbean	White & Black African	White & Asian	Mixed Other	Indian	Pakistani	Bangladeshi	Asian Other	Chinese	Other	TOTAL
Male	32.8	8.9	4.1	0.0	4.8	0.0	0.0	0.0	0.3	0.3	22.6	11.5	1.9	4.5	4.1	4.1	100
Female	43.6	9.0	2.9	0.4	6.1	0.5	0.3	0.1	0.5	0.5	18.1	7.0	1.6	2.3	4.1	3.0	100

Appendix 5 provides evidence of the methodological problems of analysing ethnicity according to broad collapsed categories of white and non-white – for example, the majority white sample at Aberdeen is comprised of a proportionally large white Irish group (51.1% of the sample).

Further analysis of the profile of respondents to Early Choices by school of pharmacy and comparing them with overall respondents will be available as a series of bulletins at a later date. The remainder of the analysis contained within this report is presented in relation to the theoretical perspective of the questionnaire. In general, it follows the order of the questions in the questionnaire, although some statistical relationships between variables are discussed thematically rather than sequentially, so that the report can address the remaining questions about studying pharmacy in terms of ***when*** respondents chose to study pharmacy; ***how*** they made this choice; and ***why*** they made the decision.

6.2 Choosing to study pharmacy

This section in the questionnaire was designed to explore respondents' early conceptualisation – and understanding of – a career in pharmacy. It sought to clarify when respondents made the choice to study pharmacy, and whether they had made an informed career choice. Questions in this section were also designed to assess the impact of a range of factors on this choice such as occupational inheritance (that is, same parent–child occupations).

On a more theoretical level, questions in this section were included to measure respondents' career commitment, a concept which means, in psychological terms, an intention to implement a career choice that has been formed through conscientious career planning. Career commitment involves aspects including individuals' attitudes towards the profession, and their motivation to work in the profession.[12,13] And career commitment refers to a strong and pervasive sense of attachment to a set of beliefs, ideas, and future directions, which is understood as providing a clear sense of occupational preference along with a firm attachment to a particular goal.

Because career commitment in the context of this study involves attitudes towards pharmacy – and especially attitudes such as how individuals identify with and value the profession – we hypothesised that those who don't have a strong commitment to pharmacy as a profession were more likely to have chosen other degrees before pharmacy, and to have chosen to study pharmacy after completing their A levels. These key decisions relate to an individual's career decidedness – the phase in the decision-making process in which an individual decides upon an occupational preference. Differences in career commitment and in levels of certainty about career choices may therefore occur as a result of differences in the timings at which individuals' choose to study pharmacy.

Thinking about career commitment in relation to the themes explored in this report, this section focuses on aspects of early choices relating to ***when*** respondents chose to study pharmacy; ***how*** they made this choice; and ***why*** they made the decision.

Looking more specifically at the questionnaire, the results in this section are presented together with a brief description of why a question was included. An indication is also given about the kinds of things we hoped to learn about the sample from including the question, and relationships between questions are explored where relevant.

6.21 Age when decided to study pharmacy

This question was designed to provide an early indication of those students in the sample who have always wanted to study pharmacy, and to differentiate between this group who have demonstrated a clear level of early career decidedness and those for whom it was a late decision.

Respondents most frequently reported that they had made this decision when they were 17 (26.1% of the total sample), although 17.8% made the decision at 18, 16.9% at 16, 7.0% at 15, and 4.7% at 19 years of age. To make more sense of the results for this question, responses were recoded into those who had made an early career decision (and hence defined as deciding at age 17 and under) and into those for whom it was a late decision (defined as deciding at 18 or over). Distinguishing between those made the decision at 17 and under and 18 and over, 63.7% of respondents made the choice to study pharmacy before they had completed their A-levels.

More female students in the sample decided to study pharmacy at age 17 and under (67.3%) than male (54.0%), a difference that is statistically significant. There was also a statistically significant relationship between age when decided to study pharmacy and ethnicity when it was collapsed into categories of white/non-white, with proportionally more white respondents deciding at age 17 and under (71.2%) compared with non-whites (55.5%). When this relationship was explored in terms of gender, it can be seen that white females were most likely to decide to study pharmacy at age 17 and under (with 73.9% of white female respondents saying they made the decision at 17 and under); this group was followed by white males (with 62.4% of white males in the sample deciding to study pharmacy at 17 and under); non-white females and non-white males made the decision to study pharmacy at age 17 and under in significantly smaller proportions (with 59.8% and 45.9% respectively).

Looking at gender, ethnicity and the age when respondents decided to study pharmacy more closely, 79.7% of white British females chose pharmacy when they were 17 and under: on the other hand, 52.2% of black Africans, 51.6% of white Irish, 48.4% of Chinese, and 38.1% of Indian females made the decision to study pharmacy when they were 18 or over. There were also significant differences between male respondents' ethnic groups and the age at which they decided to study pharmacy: 62.1% of Indian, and 61.8% of white British males chose to study pharmacy at 17 and under: this contrasts with 71.4% of black African, 63.6% of Chinese, 56.3% of Pakistani and 50% of white Irish males who made the decision to study pharmacy when they were 18 or over.

However, there was a large range in the proportion of students choosing to study pharmacy age 17 and under when this variable was examined in relation to each individual institution. While the average across all institutions was 63.7%, 78.1% of students in the sample at Cardiff, compared with only 54.8% of students at Aberdeen, choose to study pharmacy when they were 17 and under. The reasons for this variation may lie – at least in part – in the different gender and ethnic profiles of students attending the various schools

of pharmacy in the sample, since, for example, the majority white sample at Aberdeen is comprised of a proportionally large white Irish group (51.1% of the respondents at this school of pharmacy), and as reported above, large proportions of white Irish students were found to have chosen to study pharmacy at 18 or over.

Turning now to other variables that might be related to differences in the timings at which individuals' choose to study pharmacy, it can be seen that there is a statistically significant relationship between method of application to university and the age at which respondents first decided to study pharmacy. Not surprisingly, of those who applied through clearing, 64.9% were 18 and over; and 71.4% of those who applied direct to the university were 18 and over. Conversely, 68.5% of those who applied through UCAS were 17 and under.

Age was also statistically related to whether pharmacy was a respondent's first choice of undergraduate course: of those for whom pharmacy was the first choice, 73.3% made the decision to study pharmacy when they were 17 and under; and of those for whom pharmacy was not their first choice, 65.7% were aged 18 and over when they decided to study pharmacy. The relationship between these two variables demonstrates a distinction between a large proportion of respondents who have made an early decision to study pharmacy and who have then acted upon their early career choices and a small proportion for whom the decision to study pharmacy came at a later stage and in reaction to other events such as a failure to secure a place on their first choice of undergraduate course.

The implications of having a small but significant proportion within the sample for whom pharmacy was not their first choice of what to study at university are discussed more fully in section 6.25. The characteristics of this group – who appear to be drifting into and within the profession – are discussed in 6.25, where the problems of trying to construct an independent variable for the group are presented.

6.22 Practical experience of pharmacy prior to starting degree

A question about having an understanding of what working as a pharmacist involved before beginning undergraduate study was included in Early Choices. This question was included to explore respondents' early career awareness. We hypothesised that those respondents who had some practical experience of pharmacy would have more realistic expectations of the undergraduate programme and of subsequent pharmacy practise, and that they would therefore be less likely to become a member of the group we identified in 6.21 as 'drifting' into pharmacy.

Respondents most frequently reported that they had no experience of pharmacy before beginning their degree (40%). However, of those who had some experience, analysis of the frequencies of responses gave the following results: 29% of respondents said that they had had vacation experience in a community pharmacy; 20% had had a Saturday job in a community or hospital pharmacy; 14.1% had a relative who was a pharmacist so they were familiar with pharmacy; 9% had vacation experience working in a hospital pharmacy; and 12% had 'other' practical experience of pharmacy.

There were some statistically significant differences according to the gender of those respondents who had some practical experience of pharmacy prior to starting their degree: 76.6% of those respondents who had had vacation experience in a community pharmacy were female; and 80.9% of respondents who had had a Saturday job in a community or hospital pharmacy were female. However, the other categories did not show statistically significant differences by gender, although proportionally more females in the sample than male had had a Saturday job in a pharmacy or 'other' practical experience of pharmacy. While it was also not statistically significant, it is of note that, proportionally, more males had relatives who were pharmacists (31.9%) than in the sample as a whole (28.5%).

Looking at ethnicity using the broad categories of white and non-white, the kinds of practical experience of pharmacy prior to starting the MPharm course can be seen to be ethnically differentiated. While white respondents were significantly more likely to have had a Saturday job in a community or hospital pharmacy (69.3% of respondents who had had a Saturday job were white), to have had vacation experience working in a hospital pharmacy (66.3%), and to have had 'other' experience (73.5%), non-whites were more likely to have a relative who was a pharmacist (55.7% of those who had a relative who was a pharmacist were non-white, compared with 47.2% of respondents as a whole).

Because there is evidence that occupational inheritance (that is, same parent-child occupations) has an effect on career choice, and that professional family origins facilitate entry into professional occupations,[14] we explored the influence of having relatives who were pharmacists on respondents in greater depth during our analysis of the data. Here it can be seen that having a relative who was a pharmacist has a significant effect on the age when respondents decided to study pharmacy: 15.9% of those who decided to

study pharmacy at 17 and under reported having a relative who was a pharmacist, compared with 13.5% of all the sample, and only 9.3% of those 18 and over had a relative who was a pharmacist, suggesting that occupational inheritance has more of an influence on those who decide to study pharmacy at an earlier age, and that other influences may come into play for those who made a later choice to study pharmacy.

If a respondent had a relative who was a pharmacist, they were significantly more likely to have had vacation experience in a community pharmacy, perhaps suggesting that these respondents were able to acquire both formal and informal pharmacy experience while growing up in the context of a familiarly-related pharmacist.[15] While 20.7% of respondents who had had vacation experience in a community pharmacy also had a relative who was a pharmacist only 11.4% of those who had not had vacation experience in a community pharmacy also had a relative who was a pharmacist. Thus there appears to be a positive relationship between having a relative who is a pharmacist and having some practical experience of pharmacy, which may indicate that some respondents experienced early socialisation to the profession via family-based work experience and/or occupational inheritance.

Having a relative who was a pharmacist and ethnicity were significantly related amongst our respondents: 36.1% of white other, 23.6% of Indians and 20.4% of white Irish had a relative who was a pharmacist, compared with an average of 14.2%. When the 'relative is a pharmacist' variable is explored by collapsed ethnicity and gender, it is statistically significant for female respondents: 17.2% of non-white females compared with 10.6% of white females had a relative who was a pharmacist. Disaggregating ethnicity, it can be seen that proportionally the largest group who said they had a pharmacist in the family were white other males (46.2%). Following this group, large proportions of male respondents of Indian (25.4%) and white Irish (25.0%) ethnic groups also had relatives who were pharmacists. For female respondents 30.4% of white other, 22.8% of Indian and 18.6% of white Irish respondents had a relative who was a pharmacist. Few white British male (9.7%) and white British female (7.7%) respondents had a relative who was a pharmacist.

From the results presented above it can be seen that the profile of those who had practical experience of pharmacy varied by ethnicity and gender – and that, furthermore, the kind of practical experience was different too, with some groups of respondents more likely to have had a Saturday job in a community or hospital pharmacy (white respondents) and other groups more likely to have had a relative who was a pharmacist (white other males). And, perhaps surprisingly, 40% of respondents had had no practical experience of pharmacy at all, suggesting that for a large proportion of students in the sample early career awareness was not related to practical experience of pharmacy, and hence the effects of career awareness on entry into the profession cannot be explained by it. Other possible influences on the early career awareness are discussed in section 6.28.

6.23 Discussed viable alternatives to going to university to study pharmacy.

The questionnaire asked whether respondents had discussed viable alternatives to going to university to study pharmacy. This question was used to help us to establish the extent to which students had made an informed choice about their future career, and whether alternatives to studying were considered.

This question was constructed to collect data relating to two aspects of the career commitment choices process: vocational exploration and commitment; and tendency to foreclose.[16,17] Vocational exploration and commitment refers to an individual's openness to exploring various career options before committing to a specific choice. The tendency to foreclose relates to a tendency to prematurely commit to a career choice without thorough exploration of potential alternative choices. These two constructs of the career commitment choices process assess the ways a career choice is made. They conceptualise career choice as an active process that requires an exploration of many options, a process that produces an informed and reasoned choice.

Since making an informed choice of career therefore involves considering various career options, having only 30.1% of respondents who said that they didn't discuss viable alternatives to going to university to study pharmacy implies that 69.9% of respondents have made a thought-out choice to study pharmacy. No significant differences can be found between male and females who did not discuss viable alternatives, although significantly more non-whites did not discuss alternatives than whites (36.1% and 25.0% respectively). When ethnicity is explored more fully, white British respondents were least likely to not discuss alternatives (24.3%) and Pakistanis were significantly more likely to have not discussed alternatives (43.5%).

Highest frequencies for alternatives to going to university to study pharmacy were: discussed other degree courses (60.6%); discussed having a gap year (11.2%); and discussed getting a job (8.5%). Although these figures suggest that few respondents considered alternatives to studying, they do indicate that many respondents considered alternatives to studying *pharmacy*.

Looking in more detail at the profile of respondents who considered alternatives to studying pharmacy, there were no significant differences between the proportion of males and females who discussed other degree courses (56.7% of male respondents and 62.4% of female respondents discussed other degree courses). However, collapsed ethnic group was statistically significant: more whites (66.8%) than non-whites (53.6%) discussed other degree courses. Ethnicity was also statistically significant when explored by all ethnic groups: while 67.9% of white British discussed alternatives to studying pharmacy, only 45.3% of black African, 45.7% of Chinese, 46.9% of Asian other and 47.4% of Bangladeshi respondents did. When ethnicity was explored by gender with this variable, it was not statistically significant for males, but was for females. Black African females

(42.97%), Bangladeshi females (46.2%), and Chinese females (51.5%) had the lowest proportions of respondents who did not discuss alternative degree courses, and white other females (69.9%), white British females (69.3%) and Indian females (64.1%) were proportionally the largest groups of female respondents who discussed alternative degree courses.

Using the results presented above to explore respondents' career commitment choice processes it can be seen that the majority of respondents discussed other degree courses rather than discussed alternatives to studying for a degree, suggesting that the choices process was about deciding on a particular course of undergraduate study rather than about making choices between, for example, further education and work. Since almost two thirds of respondents discussed other degree course, this may indicate that they were open to exploring various career options – in the form of other degree courses – before committing to choosing to study pharmacy. However, the relatively low proportions of respondents from some ethnic minority groups who discussed alternatives to studying pharmacy may imply that ethnicity has an effect on the relative tendency to prematurely commit to a career choice. On the other hand, as discussed in relation to the profile of the respondents to Early Choices, there has been an increased participation by ethnic minorities in pharmacy practice over the last 30 years, [9] with the result that for some ethnic minority groups pharmacy may appear to be a more obvious career choice, and it is this conceptualisation of pharmacy as a suitable career for ethnic minority populations which may preclude a thorough exploration of potential alternative degree courses.

In section 6.25 this report presents results relating to those respondents who did not, at first, choose to study pharmacy. Here aspects of career commitment are explored further, especially in relation to those in the sample who appear to be drifting into the profession, to unpack in more detail the processes involved in choosing and committing to a career.

6.24 Received non-career specific advice

Again, this question was designed to help us to establish the degree to which respondents had made an informed decision about choosing to study pharmacy. However, in this instance, the question was included to explore more fully the extent to which respondents had made an informed decision about going to university in general.

Overall, 32.3% of respondents had not received any non-career specific advice prior to going to university. Male respondents were significantly less likely than females to receive non-career specific advice (38.1% of males had not received non-career specific advice compared with 32.3%), suggesting that female respondents were better informed about going to university. Although slightly fewer whites (31.1%) than non-whites (33.5%) had not received any non-career specific advice, this difference was not significant. Interestingly, there were large and significant differences between ethnic groups: 46.2% of Pakistanis, 43.8% of Asian others, and 42.1% of Bangladeshis had not received any non-career specific advice, in contrast to 21.9% of black Africans and 26.4% of Indians. This variable was not statistically significant when calculated for gender and ethnicity.

These results suggest, once again, that ethnicity has an effect on the process of deciding to study pharmacy. In relation to this question, some ethnic minority groups were significantly less likely to have received non-career specific advice. However, this finding can be interpreted in many ways: for example, it is possible that some ethnic minority students had not received information on topics such as university accommodation because they did not intend to live in university accommodation, and for this reason they had not received non-career specific advice. On the other hand, the finding may indicate that ethnic minority respondents may have chosen to study pharmacy according to different influences, and that, for this reason, the career choice processes may have been different for some groups of respondents.

6.25 Was pharmacy a first choice?

The purpose of including a question on whether pharmacy was a respondent's first choice of what to study at university was to enable us to measure the proportion of students in our sample who had chosen to study pharmacy in preference to other subjects, as well as to identify individuals (or groups of individuals) for whom subjects other than pharmacy were preferred. Looking at these two groups, we can explore the ways they may differ (or may be similar). We can also explore the data to examine relationships between other variables and whether pharmacy was a first choice or not of what to study at university.

Results relating to those respondents for whom pharmacy was not a first choice provide us with valuable insight into the process of *how* some respondents chose to study pharmacy. Since this group failed to achieve their first choice of what to study at university it perhaps implies that during the process of choosing a career they may have failed to explore fully all of their options, or they may not have sought or received appropriate careers advice. This group may also have different reasons for choosing to study pharmacy, providing us with possible insight into *why* career commitment differs across respondents. It is also possible that this group may have different expectations of a career in pharmacy.

Three-quarters of respondents to the survey said that pharmacy was their first choice of what to study at university (74.5%). There was no significant difference between male and female respondents, with 72% of male and 76% of female respondents stating that pharmacy was their first choice. However, pharmacy was a first choice in statistically significant different proportions for white and non-white respondents: for 83.0% of white respondents, pharmacy was a first choice; but it was only a first choice for 66.6% of non-white respondents. When analysed by all ethnic groups, it can be seen that while pharmacy was a first choice for 86.6% of white British respondents, it was only a first choice for 59.4% of Asian others, 62.9% of white others, 64.4% of Pakistanis and 64.8% of Indians. These differences were statistically significant.

If we now introduce gender into the analysis, it is possible to identify more accurately those groups for who pharmacy was not a first choice. Starting with the broad ethnic categories, it can be seen that for 83.9% of white females pharmacy was a first choice, yet for non-white females the proportion is significantly lower, at 66.9%. This trend was also found amongst male respondents, where for 80.4% of white males, but 66.1% of non-white males, pharmacy was a first choice.

Looking within these broad ethnic groups, it can be seen that for 85.4% of white British males who completed Early Choices, pharmacy was a first choice. In contrast, it was only a first choice for 61.8% of Pakistani males, 67.9% of white Irish, and 71.8% of Indian males. These trends were not replicated when the ethnic background of the female respondents was analysed: although, once again for a high proportion of white British pharmacy

was a first choice (87.0%), it was, proportionally, a first choice for more white Irish females (76.1%) than white Irish males (67.9%). In addition, proportionally more Pakistani than Indian females said that pharmacy was their first choice (66.1% and 61.4% respectively) – this was the converse for males, where more Indian (71.8%) than Pakistani males (61.8%) said that pharmacy was their first choice. These differences were again statistically significant.

Those who said that pharmacy was not their first choice were asked to select their first choice of undergraduate course from a list of 7 possible alternative courses, plus an 'other' category. Highest frequencies for respondents' first choice of what to study at university were for: medicine (9.6%), other (5.1%), dentistry (4.8%), chemistry (1.5%), optometry (1.4%), veterinary science (1.3%), biology (0.9%) and accountancy (0.2%). First choice of another course was not statistically significant when examined by gender.

But differences in first choice were found when these choices were examined in relation to ethnicity. Proportionally, more whites had originally chosen to study veterinary science (86.7%) and non-whites optometry (87.5%), dentistry (86.3%) and medicine (70.4%). These differences were statistically significant. The differences also suggest that different ethnic groups may adhere to different career myths. Career myths mean that some career options are believed to be more suitable than others, regardless of an individual's ability, skills and aptitudes.[17] Career myths have been found in other studies to cause some ethnic groups to commit to particular career choices, and to be influenced by particular aspects of the career choices process.[17]

Career myths may explain the significant differences observed when ethnicity and first choice of undergraduate course was analysed further. Starting with medicine, of those respondents for whom it was their first choice, 20.4% were Indian, 14.8% white British, 13.9% Pakistani and 11.1% white Irish. For dentistry, 52.9% were Indian, 15.7% Pakistani, and 9.8% were both white British and asian other. The frequencies were too small to analyse chemistry, optometry, veterinary science, biology and accountancy at this level of specificity.

The rationale for including a question on whether pharmacy was a first choice was to not only measure the proportion of students in our sample who had chosen to study pharmacy in preference to other subjects but to also explore its relationship with other variables. For example, in 6.21 we reported that when age at which the decision to study pharmacy was reached was examined in relation to whether pharmacy was a respondent's first choice of course to study at university, it was found to be statistically significant. In fact, the general pattern we found was that as the age at which this decision was reached rises, proportionally more people reported that pharmacy was not their first choice. The statistically significant relationship between these two variables suggested that amongst Early Choices respondents there was a significant proportion – around 20% – of students in our data set who didn't have a strong commitment to pharmacy as a profession. Looking through the

questionnaire, we identified several other questions which might be related to – or tell us more about the characteristics of – this 20%. These questions were: method of application to university; desire to study pharmacy; have you ever considered changing courses or dropping out of your pharmacy course; I'm undecided about my future career; I want to do something other than being a pharmacist. We hypothesized that if a respondent was not strongly committed to pharmacy, they would answer these questions in a particular way. For example, they would be more likely to have applied to study pharmacy through clearing or direct to the university, and they would be more likely to have described their strength of desire to study pharmacy as moderate, weak or very weak. The list of questions together with the conditions we anticipated these respondents to have satisfied is given in Table 11.

In order to establish whether there was any validity in making the assumption that those respondents who said that pharmacy was not their first choice were the same respondents who answered these questions in a particular way, we first did some frequency counts. The frequencies for these questions are also given in Table 11 below.

Table 11: Possible questions relating to weak commitment to a career in pharmacy

Question	Condition	Frequency	%
Was pharmacy your first choice?	No	286	24.7
Age when decided to study pharmacy	18 or over	379	36.3
Method of application to university	Clearing/direct to university	162	14.2
Strength of desire to study pharmacy	Moderate/weak/very weak	241	20.8
Have you considered changing courses or dropping out?	Yes	228	19.7
I'm undecided about my future career	Strongly agree/agree	278	24.2
I want to do something other than be a pharmacist	Strongly agree/agree	213	18.7

Table 11 shows, with the exception of those who applied to university via clearing or direct to the university, that on most of these variables, around 20% of respondents appeared to satisfy the conditions which indicated they have a weak commitment to a career in pharmacy. Furthermore, when the gender and ethnic characteristics of those who meet these conditions were analysed, they appeared to be consistent across the questions. From this evidence, it appeared that amongst our respondents there was a 'drifting fifth' of students who have fallen into pharmacy and who were not strongly committed to studying or practising pharmacy.

However, further examination questioned the assumption that it was the same 20% of respondents who could be found across all these questions. For example, when 'was pharmacy your first choice?' was explored in relation to 'strength of desire to study pharmacy' we found that, in total, there were only 110 respondents (or 9.4% of the sample) for whom pharmacy was not their first choice and who had a moderate, weak or very weak desire to study pharmacy, although the relationship between the variables is statistically significant. A similar pattern emerged when those who said that pharmacy was not their first choice were compared with those who said that they had considered changing courses or dropping out – here, it was only 5.8% of respondents who met both these conditions, a relationship which was not statistically significant. Similar proportions were found for respondents for whom pharmacy was not a first choice and who had said that they wanted to do something other than be a pharmacist (6.0%), which was statistically significant, and between respondents for whom pharmacy was not a first choice and those who said they were undecided about their future career (6.4%), which was not statistically significant.

On this evidence it appears that those students for whom pharmacy was not their first choice of undergraduate course were not necessarily uncommitted to pharmacy or to having a career in pharmacy. This finding suggests that the ways our respondents came to be studying pharmacy may differ, but that this difference alone cannot predict variations in career commitment in our sample.

We also explored relationships between the other variables in table 11. Here we found that 7.9% of respondents who had a moderate, weak or very weak desire to study pharmacy had also considered dropping out, a result which was statistically significant. In addition, 7.7% had both a moderate, weak, or very weak desire to study pharmacy and were uncertain about their future career, a relationship which was also statistically significant. Finally, 6.6% of respondents had a moderate, weak, or very weak desire to study pharmacy and wanted to do something other than be a pharmacist, which was, once again, statistically significant.

Similar proportions of respondents were found when those who have considered dropping out or changing course were explored in relation to those who were uncertain about their future career (7.9% of respondents) and with those who wanted to do something other than be a pharmacist (6.4%). These relationships were statistically significant. Finally, when those who were undecided about their future career were analysed in relation to those who wanted to do something other than be a pharmacist, 7.3% of respondents were found, which was also statistically significant.

These results suggest that it is difficult to determine a combination of variables that encapsulated those who appeared to be drifting into and within the profession. Furthermore, this difficulty implies that it is hard to construct an independent variable with which to examine the major characteristics of these 'drifters'. While many of the variables were statistically significantly related, it was clear that while respondents may seem to constitute a drifter in

one context, they did not in other contexts. On this evidence, it appears that those for whom pharmacy was not a first choice, or those who applied through clearing, or those whose desire to study pharmacy was initially weak were not necessarily uncommitted to the profession. However, the fact that, for example, significant proportions of respondents had considered changing courses or dropping out indicates that for our data set – and at the time of completing the survey – many were not satisfied that they had chosen to study pharmacy.

6.26 Sources of information about a pharmacy career

Because one of the stated aims of Early Choices was to collect data relating to *how* respondents had chosen to study pharmacy, a question in the survey asked respondents about sources of information they had used to help them make this choice. Respondents were asked which out of a list of fifteen possible sources of information they had used to help them choose their undergraduate course, and to indicate which source of information they had found most useful. Not only did this question identify sources of careers information, it also enabled us to determine sources of occupational awareness, giving an insight into how respondents' views of pharmacy were informed and shaped. Finally, this question helped us to identify any sources that might have been used frequently but not rated as most useful.

While all fifteen sources of information were used, the frequencies with which they were used varied widely. Sources most commonly used were: university prospectus (89.8%), UCAS (81.1%), a visit to a university open day (68.3%), a career adviser or teacher (62.8%), work experience (57.2%), a pharmacist (52.4%) and a relative (46.6%). The RPSGB was only used by 7.1%, the lowest figure for any of the sources of information given in the list. Four items were used in statistically significant different proportions of male and female respondents, university prospectus (used by 91.8% of females and 84.8% of males), UCAS (83.0% of females used this, compared with 76.2% of males), a visit to a university open day (used by 71.2% of female respondents and 60.9% of male respondents) and work experience (which was used by 60.8% of females and 48.2% of males). Work experience was the most statistically significant different item in relation to the gender of respondents.

When ethnicity and sources of information were analysed, nine items were statistically significant. Five items were used by proportionally more whites than non whites: a university prospectus (used by 92.9% of whites and 86.0% of non-whites), a visit to a university open day (which was used by 71.9% of whites and 63.2% of non-whites), work experience (64.2% of whites had used this, compared with 48.5% of non-whites), a pharmacist (which 57.7% of whites and 46.5% of non-whites had used) and a personal interview at university (used by 42.2% of whites and 39.5% of non-whites). Items which proportionally more non-whites reported using were: a relative (used by 58.7% of non-whites and 37.0% of whites), a subject teacher at school (53.7% of non-whites had used this, compared with 47.4% of whites), other students (which 47.6 of non-whites had used, compared with 35.9% of whites) and a visit to school/college by a pharmacist or pharmacy employer (used by 13.3% of whites and 24.0% of non-whites). Of all these statistically significant items, the most significant was using a relative as a source of information. This finding suggests that non-whites were more likely to use family networks as a source of information, and for these networks to have been available and considered valuable. In 6.27 the influence of family on the decision to study pharmacy is discussed further in relation to ethnicity: but here, it once again indicates that the process of choosing to study pharmacy varies by ethnicity.

Looking at the most helpful source of information, the RPSGB was evaluated as most useful by only two respondents (0.3% of the sample) – this contrasts with other items such as university open day (which 18.5% of respondents said was most useful), work experience (15.4% of respondents said this was the most useful), university prospectus (13.7% of respondents chose this as the most useful source of information), a relative (12.4% of respondents said this was the most useful) and a pharmacist (which 10.0% of respondents said was most useful).

Significant differences were found between male and female respondents' choice of most useful source of information. Proportionally, more females than males had found work experience to be the most useful source of information (17.4% compared with 9.8%), demonstrating the value of obtaining practical experience of pharmacy prior to starting the degree for some of our sample. This finding was not in itself surprising, since, as we reported in 6.22, proportionally more female than male respondents had had work experience in a pharmacy prior to starting their degree. For male respondents, a relative was the most useful source of information (14.2% of male respondents said relatives were the most useful source of information, compared with 11.7% of females). Other gender differences related to a visit to a university open day (which 16.0% of male and 18.8% of female respondents said was most useful) and a university prospectus (where 11.1% of males and 14.6% of females assessed this as the most useful source of information).

Because of the number of sources of items chosen as the most helpful source of information, the frequencies were too small to explore this question fully by ethnicity. However, in terms of white and non-white, some interesting and significant differences were found. Non-whites constituted the largest proportion (68.0%) of those who said that a school subject teacher was the most helpful source of information. Whites made up the majority of those who ranked their experience at interview as most helpful (73.9%); of those who believed attending a university open day was most useful (68.9%); and of those who valued work experience as the most helpful in choosing their undergraduate course (68.9%).

Looking at the most useful source of information within ethnic group, proportionally, white respondents found the following to be most useful: a visit to a university open day (21.8%), work experience (19.1%), a university prospectus (12.6%) and a pharmacist (11.6%). For non-whites, proportionally, the most useful sources of information were: a relative (17.7%), a university prospectus (14.4%), a visit to a university open day (13.0%) and work experience (11.4%). The most useful source of information was statistically significant when analysed by these broad ethnic groups.

A relative was rated as the most important source of information for both non-white males and non-white females. Non-white male respondents were proportionally more likely to rate a relative as the most important source of information than white male respondents (20.0% and 9.9% respectively). This was also true of non-white females, with 16.8% of non-white females saying a

relative was the most important source of information compared with 8.8% of white female respondents. While a relative was the most valuable source of information, proportionally, for both non-white males and females, a visit to a university open day was valued by the largest proportions of white males (18.9%) and white females (22.7%). These differences were statistically significant.

What do these results tell us about how our respondents' career awareness was shaped? From the analysis presented above, it appears that our sample used multiple sources of information, and that this suggests that they were well informed. It also suggests that their career awareness was constituted by disparate and distributed sources of information, and ranged from actively visiting a university and work experience to more informal sources such as family members and other students. Furthermore, quite distinct patterns emerged when most useful sources of information were evaluated, especially in relation to ethnicity, where we found that non-whites were more likely to value information from within the family and whites to value a visit to an open day at a university. It is possible that these differences relate to differences in values more generally – and in particular to differences in the values of family and family networks between ethnic groups.

6.27 Pharmacist in the family and family reaction

Early Choices had two questions asking respondents about whether they had any pharmacists in the family. The results of the first question appeared in 6.22 (practical experience of pharmacy prior to starting a pharmacy degree). In 6.22 we reported finding that non-whites were more likely to have had a relative who was a pharmacist. This second question was included in the survey partly as a validity check of the first question, but primarily to establish again whether there were any links between career choice and occupational inheritance – and if there were any links, to differentiate if possible between the effects of having a parent, sibling or member of the extended family who was a pharmacist on the processes of choosing to study pharmacy and career choice.

The question of family influence on the decision to study pharmacy was included to explore whether certain groups of respondents reported being more influenced than others by members of their family. As reported in 6.25, differences between ethnic groups were found in terms of first choice of degree course – in 6.25, we suggested that these differences might have arisen because different ethnic groups adhere to different career myths. In the context of the results relating to family influence on the decision to study pharmacy, we might expect to find that some ethnic groups were more strongly committed to particular career choices, and that hence they might have exerted more influence on respondents' choice to study pharmacy.

Looking first at those respondents who said that none of their relatives was a pharmacist, proportionally, males were under-represented in those who did not have a pharmacist in the family (27.0% of those who did not have a relative in the family were male, compared with 28.5% of all respondents). This was not statistically significant in terms of the gender of respondents. However, this contradicts the finding in 6.22, where it was reported that, proportionally, more males had relatives who were pharmacists than in the sample as a whole. This discrepancy was not large, and while it suggests that respondents were inconsistent, the question in 6.22 asked about practical experience of pharmacy because a family member was a pharmacist rather than just asking about having a family member who was a pharmacist.

When those who did not have a pharmacist in the family are explored by broad ethnic categories of white and non-white, it can be seen that, significantly, 79.6% of whites and 58.9% of non-whites do not have a family member who is a pharmacist. Exploring this relationship by gender as well, 74.3% of white males and 59.4% of non-white males did not have a relative who was a pharmacist, and 81.3% of white females and 58.6% of non-white females did not have a relative who was a pharmacist. While this finding was statistically significant for both male and female respondents, the p value was smaller for females (0.000) than for males (0.005).

The largest proportion of those who did not have a relative who was a pharmacist were white British: 50.4% of those who did not have a relative who was a pharmacist were white British, compared with 40.6% of the total sample

of respondents who were white British. In contrast, the largest group to disagree with the statement 'none of my relatives is a pharmacist' were Indians, hence implying that they did have a relative who was a pharmacist. Indians made up 35.4% of those who disagreed with the statement, while constituting only 19.4% of the sample as a whole. These results were statistically significant.

As a proportion within the ethnic groups, 86.7% of white British did not have a relative who was a pharmacist, and this proportion is even greater for Bangladeshi respondents, 94.7% of whom did not have a relative who was a pharmacist. Significantly, 44.9% of Indian respondents did not have a pharmacist in the family, implying that over half of Indian respondents did have a relative who was a pharmacist. Finally, 68.1% of Pakistanis said they did not have a relative who was a pharmacist.

Of those who did have pharmacists in the family, most respondents reported having an aunt or uncle who was a pharmacist (12%). This was followed by having a cousin (11%), and then a brother or sister (5%), who was a pharmacist.

The largest groups, proportionally, to have had an aunt or uncle who was a pharmacist were Indians (29.2%), other ethnic groups (18.9%) and white Irish (18.0%). Both 11.8% of male and female respondents reported having an aunt or uncle who was a pharmacist. However, this result obscures the significant differences between the proportions of white and non-white – and between white and non-white males and between white and non-white females – who had an aunt or uncle who was a pharmacist. While only 7.5% of whites had an aunt or uncle who was a pharmacist, 17.17% of non-whites did. And while 8.3% of white males had an aunt or uncle who was a pharmacist, 15.9% of non-white males had an aunt or uncle who was a pharmacist. Finally, 7.2% of white females and 18.5% of non-white females had an aunt or uncle who was a pharmacist.

Having a member of the extended family who was a pharmacist, rather than a parent, amongst our respondents suggests that occupational inheritance might occur more through familialism rather than through direct parent-child relationships. It has been suggested that within Indian familial relationships, family networks of parents, brothers and sisters, aunts, uncles and cousins influence the decisions taken by individuals such as career choice, and that familial interests take precedence over the interests (desires and choices) of each family member.

Our data suggest that the influence of family on our respondents' decision to study pharmacy was not significantly different for males and females, but that it was significantly different for whites and non-whites. Whites were, proportionally more likely to have considered that their family did not influence their decision to study pharmacy at all: 39.3% of whites said their family were no influence, compared with an average of 35.4% of all respondents and 31.1% of non-whites. In addition, non-whites were more likely to have said that their family strongly influenced their decision to study pharmacy: 27.1% of

non-whites, but only 16.5% of whites, said their family influenced their decision a great deal.

However, there were no significant differences between white and non-white males in terms of family influence, but there were large differences between white and non-white female respondents. 65.0% of those females who said that their family did not influence their decision to study pharmacy at all were white, but 62.8% of those females who said that their family had influenced their decision a great deal were non-white.

Striking differences were observed when ethnicity was explored further. Some ethnic groups were proportionally more likely to believe that their families had influenced their decision to study pharmacy more than the average of 21.5% of all respondents. These groups were: other ethnic groups (45.9%); black Africans (34.4%); white Irish (28.0%); white other (27.8%); Indian (26.2%); and Pakistani (25.0%). On the other hand, white British, Bangladeshi, and Chinese respondents were more likely than average to say that their families had been no influence on their decision to study pharmacy (while the average was 35.4% of all respondents, 41.3% of Chinese, 41.4% of white British, and 47.4% of Bangladeshi respondents said their families had not influenced them). These results suggest that some ethnic groups were proportionally more likely to have been influenced by their family than others, and once again indicates that career myths may be at work as families may have attempted to steer the respondents into suitable career options (in this case, pharmacy).

6.28 Reasons for choosing to study pharmacy

The final question in this section of the Early Choices survey asked respondents to evaluate the influence of eighteen items on their decision to study pharmacy. The list of items was generated from reviewing the literature and from our focus group work. Respondents were also asked to select from the list the item which had been the biggest influence on this decision. The second part of the question was designed to establish between the relative importance of many possible different reasons for choosing pharmacy. Data generated by this question relate to *why* respondents' chose to study pharmacy. Once again, results in this section show that there were significant differences between groups of respondents in terms of their reasons for choosing to study pharmacy. In general, these differences relate to the themes that have already been discussed in this report, such as career commitment, the role of the family and family-networks in decision-making, pharmacy work experience, and entrepreneurialism.

Amongst the items respondents were asked to differentiate between were statements relating to extrinsic factors motivating their choice such as 'I wanted a well paid career' and statements relating to intrinsic motivators for choosing to study pharmacy such as 'I wanted to help people'. In psychological terms, intrinsic motivations are believed to be consistent with personal qualities, intentions and values.[19] They are part of a person rather than part of any work: this means that rewards are conceptualised as being derived from carrying out an activity rather than a product of an activity. In other words, this means that rewards are intrinsic to a task which is in itself satisfying (or rewarding) rather than the task being a means to an end (where the end is a salary exchanged in return for an individual's labour), and that individuals gain a sense of being an effective agent in what is important to them by performing tasks that are intrinsically motivating. On the other hand, extrinsic rewards provide individuals with satisfaction via rewards such as pay and status – but focusing purely on extrinsic rewards can cause a person to place too much emphasis on the end product of working – the pay – to the detriment of job satisfaction and long term career commitment. Most people, according to the theory of intrinsic and extrinsic work values, adopt a balance between intrinsic and extrinsic work values, although their equilibrium points will differ. And the point of equilibrium reflects most closely an individual's values.

Since we have consistently found a complex interplay between values, gender and ethnicity at work when respondent data were analysed, in relation to this question on reasons for choosing to study pharmacy we hypothesised that items such as work experience would be more influential on white respondents (as proportionally white respondents were more likely to have had pharmacy work experience prior to starting the MPharm course, see 6.22) and that family and familial relationships would be more influential on non-white respondents (as non-white respondents were proportionally more likely to have said that their family influenced their decision to study pharmacy a great deal, see 6.27).

Looking first at items respondents said had strongly influenced their decision to study pharmacy, all eighteen items were evaluated as having had a strong influence on the decision to study pharmacy by some respondents. However, the frequencies with which they were rated as having strongly influenced their decision varied greatly. More than half of respondents had chosen to study pharmacy because it was a science-based course (79.0% of respondents); because pharmacy offered good career opportunities (69.7%); because pharmacy was a respected profession (69.0%); because they wanted to help people (65.4%); because pharmacy was perceived as providing a well paid career (51.8%); and because they wanted to work with patients (50.7%). These items reflect both extrinsic and intrinsic work values, and suggest respondents were motivated to study pharmacy by a balanced set of factors.

Items that less than half of the respondents felt had strongly influenced their decision to study pharmacy also demonstrated a balance between intrinsic and extrinsic values, with 46.0% saying they were strongly influenced to study pharmacy because it offered a wide variety of job opportunities; 45.6% said they were motivated to study pharmacy because they didn't want to study medicine but wanted to work in a health related field; 36.2% that they chose to study pharmacy because they could work anywhere in the world; 33.7% that opportunities for flexible working were a strong influence; 26.8% by pharmacy work experience; 23.5% by a pharmacist they knew; 21.1% said that their choice was strongly influenced simply because pharmacy suited their A-levels; 20.0% were encouraged by their family to study pharmacy; 18.1% had always wanted to be a pharmacist; 17.8% were strongly influenced to study pharmacy because they wanted to have their own business; 8.2% chose pharmacy because they couldn't think of anything else to do; and 3.5% because they were advised to study pharmacy at school.

Items that were statistically significant when explored in relation to gender were: wanted to do a science based course; wanted to have my own business; wanted to work with patients; wanted to help people; didn't want to study medicine but wanted to work in a health related field; influenced by pharmacy work experience while still at school; wanted a job with opportunities for flexible working. In all but 'wanted to have my own business' proportionally more females than males were strongly influenced by these reasons. Table 12 (overleaf) gives the proportions of male and female respondents who were strongly influenced by the range of items given in Early Choices to choose to study pharmacy.

Table 12: Choosing pharmacy – Strongly influenced via gender

Item	Male %	Female %	Total %
I wanted to do a science based course	75.0	80.6	79.0
I wanted to work in a well respected profession	65.7	70.3	69.0
I was encouraged by my family to do pharmacy	20.3	19.9	20.0
I couldn't think of anything else	9.5	7.7	8.2
I wanted a well paid career	56.2	50.1	51.8
I wanted to have my own business	28.1	13.7	17.8
I wanted to work with patients	40.2	54.9	50.7
I wanted to help people	53.9	70.0	65.4
Didn't want to study medicine but wanted to work in health related field	33.5	50.4	45.6
I was influenced by pharmacy work experience I had while at school	21.9	28.7	26.8
I was influenced by a pharmacist I knew	25.1	22.9	23.5
I wanted a job with good career opportunities	69.2	69.9	69.7
The pharmacy course happened to suit the A levels I did	24.8	20.6	21.8
I wanted a job with opportunities for flexible working	26.7	36.4	33.7
I wanted a job which offered a wide variety of job opportunities	45.1	46.3	46.0
I wanted to be able to work anywhere in the world	37.9	35.5	36.2
I always wanted to be a pharmacist	17.3	18.4	18.1
I was advised at school	3.8	3.4	3.5
Other	15.4	6.8	10.1

Overall, items that were significantly related to the gender of respondents do not suggest that female respondents were more likely to be influenced by intrinsic values and males by extrinsic values. However, several of the items – such as those like helping people and opportunities for flexible working – suggest that female respondents were influenced by a range of gender-role preferences that influenced their choice of undergraduate degree course, and that these preferences occur because female students hold a particular set of work and social values, a finding that has some parallels with Hakim's theories discussed in 6.11(Gender profile of respondents).[6, 7]

When ethnicity and influences on respondents' decision to study pharmacy were analysed, eight items were statistically significant. Only one item was of more influence, proportionally, on white rather than non white respondents, and that was, as hypothesized, pharmacy work experience, which strongly

influenced 31.6% of white but only 21.2% of non-white respondents. Items which were proportionally more influential on non-white than white respondents were: wanted to work in a well respected profession; encouraged by family to do pharmacy; couldn't think of anything else; wanted to have my own business; pharmacy course suited my A levels; wanted to be able to work anywhere in the world; always wanted to be a pharmacist. Table 13 below shows the proportions of white and non-white respondents strongly influenced by the items.

Table 13: Choosing pharmacy –Strongly influenced via collapsed ethnic group

Item	White %	Non-white %	Total %
I wanted to do a science based course	77.6	80.7	79.1
I wanted to work in a well respected profession	59.6	79.7	69.0
I was encouraged by my family to do pharmacy	15.2	26.1	20.3
I couldn't think of anything else	5.5	10.9	8.0
I wanted a well paid career	51.6	51.1	51.4
I wanted to have my own business	12.5	23.1	17.5
I wanted to work with patients	50.5	51.6	51.0
I wanted to help people	65.0	67.4	66.1
Didn't want to study medicine but wanted to work in health related field	46.6	44.7	45.7
I was influenced by pharmacy work experience I had while at school	31.6	21.2	26.8
I was influenced by a pharmacist I knew	26.1	20.4	23.4
I wanted a job with good career opportunities	69.6	70.7	70.1
The pharmacy course happened to suit the A levels I did	17.4	27.1	21.9
I wanted a job with opportunities for flexible working	31.6	37.2	34.2
I wanted a job which offered a wide variety of job opportunities	44.7	47.7	46.1
I wanted to be able to work anywhere in the world	32.2	40.3	36.0
I always wanted to be a pharmacist	14.8	21.9	18.1
I was advised at school	2.4	4.9	3.6
Other	7.1	12.8	9.9

When gender was explored within white and non-white groups, we found that seven items were statistically significant. Once again, only one item was of more influence, proportionally, on white than non white respondents – and once again, that item was pharmacy work experience. Here results show that 33.5% of white female respondents were strongly influenced by this but only 21.8% of non-white females. The item was not significant for white and non-white males, although proportionally more white male respondents were influenced by pharmacy work experience than non-white males (25.9% and 19.9% respectively).

Items that were proportionally more influential for non-white than white respondents when controlled for gender were: wanted to work in a well respected profession; encouraged by my family to do pharmacy; couldn't think of anything else; wanted to have my own business; the pharmacy course happened to suit the A levels I did; and always wanted to be a pharmacist. Wanting to work in a well respected profession was statistically significant for both male and female non-whites, but was proportionally more influential for non-white females than males (83.5% non-white females compared with 71.5% of non-white males said this was strongly influential). However, being encouraged by their family was only statistically significant for non-white females, with 69.2% of non-white females being influenced by their family compared with only 53.8% of white females. The item 'couldn't think of anything else' was no influence for 72.0% of white females but, significantly, 34.5% of non-white females were influenced by this. In terms of wanting to have their own business, this was significant for both male and female non-whites: 64.4% of male non-whites (but 47.1% of white males) were influenced by the prospect of having their own business; and 49.5% of non-white females compared with 33.9% of white females were also influenced by wanting to have their own business. Pharmacy having suited their A level subjects was also significantly related to non-white male and females. While this fit between subjects already studied with a future degree course strongly influenced 31.5% of non-white males it only strongly influenced 18.3% of white males; a good fit with A level subjects already studied also strongly influenced 25.1% of non-white females but only 17.0% of white females. Finally, both male and female non-whites were, proportionally, more likely to have chosen to study pharmacy because they had always wanted to be a pharmacist, but this was only statistically significant for non-white females, with 22.6% of non-white but 14.8% of white females saying they were strongly influenced by always having wanted to be a pharmacist. Amongst male respondents, 20.5% of non-white males and 14.7% of white males were strongly influenced to study pharmacy by having always wanted to be a pharmacist.

When data were analysed relating to respondents' selection of the most influential item on their choice, the five items with the largest frequencies were: I wanted to do a science based course (this was the most influential reason for 24.7% of respondents); didn't want to study medicine but wanted to work in a health related field (most influential for 11.8% of respondents); wanted to work in a well respected profession (most influential for 9.1% of respondents); wanted a well paid career (8.9% of respondents felt that this

item had been the most influential); and wanted to help people (8.3%). These items suggest that although there were both extrinsic and intrinsic factors motivating respondents' choice to study pharmacy, the balance of factors was towards extrinsic rewards.

Proportionally, more male respondents were most influenced by pharmacy being a science based course (for 27.2% of males and 23.7% of females this was the most influential item), but amongst both male and female respondents this was the item that the largest number of respondents selected as having been the most influential. However, 10.5% of male respondents were most strongly influenced by pharmacy being a respected profession and by pharmacy being well paid, both items which suggest extrinsic factors were important sources of motivation for male respondents' choice to study pharmacy. For female respondents, these items were most influential for smaller proportions of respondents, since only 8.5% (respected profession) and 8.3% (wanted a well paid career) selected these items as most influential, differences which were significant.

Choosing to study pharmacy because it was a science based course was the most influential item for both white and non-white respondents, although a significantly larger proportion of non-white respondents (28.2%) than white respondents (21.3%) selected this as the item that had most influenced their choice. Non-whites were also more likely to have been influenced by wanting to work in a well respected profession (12.7% compared with 6.3% of non-whites) and to have been encouraged by their families (6.9% of non-whites compared with 2.1% of whites said this was the most influential). On the other hand, white respondents were more likely to have been most influenced by pharmacy being a health related field (14.2% of whites compared with 9.1% of non-whites) and by pharmacy being a well paid career (9.5% compared with 6.9% of non-whites).

When differences between white and non-whites were analysed controlling for gender, for both white and non-whites males were most influenced by pharmacy being a science based course (31.2% non-white, 21.2% white males). However, although differences between white and non-white males were not found to be statistically significant, more non-white males were most influenced by wanting to work in a well respected profession (12.8% compared with 9.1% of white males) and by wanting to help people (9.2% compared with 7.6% of white males). Items which were considered to have been most influential by proportionally more white males than non-white males were wanting to work in a health related field (9.1% compared with 3.5% of non-white males) and good career opportunities (9.1% compared with 4.3% of non-white males).

Significant differences were found when white and non-white females were compared. Once again, wanting to do a science based course was the most influential item for the largest proportion of respondents, regardless of their ethnic group (with 21.3% of white females and 26.9% of non-white females). As with non-white males, non-white females were more likely than whites to have been most influenced by wanting to work in a well respected profession

(12.7% compared with 5.4% of white females), and whites to have been, proportionally, more influenced by wanting to work in a health related field (15.8% compared with 11.5% of non-white females). However, as hypothesized, non-white females were also more likely to have said that their families were the most influential factor, with 7.7% of non-white females but only 1.7% of white females selecting this as the most influential item on their choice of pharmacy.

Looking at ethnicity more closely, it can be seen that choosing to study pharmacy because it was a science based course was most influential for 41.2% of Pakistani male respondents, 28.3% of Indian, 21.4% of white British but only 12.5% of white Irish males. The trend was a little different amongst female respondents, where 45.5% of Bangladeshi, 36.6% of black African, 29.6% of Indian, 22.9% of white British, 18.0% of Pakistani and 11.3% of white Irish females said that the most influential factor in choosing to study pharmacy was that it was a science based course. Other items could not be analysed further due to small frequencies.

From the results presented in this section, it appears that amongst all groups of respondents, pharmacy was chosen by the largest proportions because it was a science based course. There were differences in the relative ranking of items after this, but the general pattern of the top 5 or 6 items was the same. Looking at some of the items which smaller proportions selected as most influential, proportionally more non-white males were influenced by extrinsic factors such as pharmacy being a respected profession and items such as the opportunity to open business – but for females the influence of the family was significant.

6.3 Choosing an institution

This section in the questionnaire was designed to explore a different but related set of Early Choices – choices made about the university respondents were attending at the time of completing the questionnaire. Where section 6.2 dealt with data on choosing to study pharmacy (an event which had happened, for 63.7% of respondents, at age 17 and under, see 6.21) 6.3 covers topics relating to respondents' time at university and their commitment to both studying pharmacy and subsequent pharmacy practice while a student. In other words, section 6.3 contextualises data on choosing an institution in terms of events, experiences etc that had taken place while at university, such as respondents' strength of desire to study pharmacy and the degree of match between respondents' expectations of the MPharm programme and their experiences whilst studying.

Questions in this section were once again designed to operationalise aspects of respondents' career commitment, and to help us to establish the extent to which students had made an informed choice of institution. Hence questions in this section were included to collect data relating to the influences on students' choice of institution and method of application; there were also questions on intended career path when respondents began the MPharm course; and there were several questions about whether students had had to repeat any of their pharmacy examinations and whether they had considered changing courses or dropping out of their pharmacy course. These later questions were included partly to measure the extent to which respondents had experienced problems or regrets while studying for their pharmacy degree, but also to explore whether there were any links between those who had considered changing courses or dropping out and the drifters identified in 6.25. Once again we hypothesised that those who didn't have a strong commitment to pharmacy as a profession were more likely to have had to repeat some of their pharmacy examinations, to have considered changing course or dropping out, and to have a weak desire to study pharmacy when entering pharmacy school.

Career commitment in this section of the report is therefore explored through those aspects of early choices relating to ***how*** respondents decided to attend the institution they were currently based at, ***how*** they applied to that institution, and the ways that their experiences at university may have effected their commitment to the profession, or, conversely, the ways that their low commitment to the profession may have effected their experiences at university.

As in the previous section, results are presented together with a brief description of why a question was included. An indication about the kinds of things we hoped to learn about the sample from including the question is also given. Finally, relationships between questions are explored where relevant.

6.31 Factors influencing choice of university

Because one of the aims of Early Choices was to collect data relating to all aspects of the career choices process, a question in the survey was included to establish which factors were important when choosing the particular institution chosen to study pharmacy at. This question enabled us to distinguish between those groups who were more influenced by factors such as proximity to family, and those groups who were more influenced by factors such as a visit to the university itself. Results already presented in 6.26 of this report have shown that some groups – such as non-white males and females – were proportionally more influenced by family and familial networks, and other groups – such as white males and white females – were proportionally more influenced by a visit to a university open day when choosing to study pharmacy. If these trends were also found here then it demonstrates both consistency across an individual's responses and that, methodologically, the operationalisation of career commitment has been effective in Early Choices.

For this question, respondents were asked to distinguish between those factors that had been no influence, those that had been a partial influence, and those that had been a strong influence on their decision to study at a particular institution, and to then identify from the list of eleven possible items the most influential factor. Analysis of the data showed that while all eleven factors were evaluated as influencing respondents' choice of university, the relative frequency with which they were evaluated as strongly influencing the decision ranged from only 6.4% of respondents who said they were strongly influenced to attend their university by a relative who was already studying at the university to 60.8% who were strongly influenced by the reputation of the course – and this result contrasts with 43.1% who were strongly influenced by the reputation of the university itself, suggesting that the course itself was more of an influence than the institution. Table 14 (overleaf) shows the proportions of respondents who were strongly influenced by the factors to attend a university and the most influential factors selected by respondents from the list of items.

After the reputation of the course, factors strongly influencing respondents were: a visit to the university (43.7%); liked the university itself (43.6%); reputation of the university (43.1%). Two of these items were significant when analysed in terms of the gender of respondents. Both liking the university itself and the reputation of the university strongly influenced a significantly larger proportion of female than male respondents (45.9% of female respondents compared with 37.7% of male respondents were strongly influenced by liking the university itself; and the reputation of the university strongly influenced 38.6% of male respondents but 44.9% of female respondents).

Table 14: Factors influencing university attended – strongly influenced and most influential

Factor	Strongly influenced %	Most influential %
Proximity to family/home	33.9	22.7
Relative already studying at the university	6.4	2.6
Liked the city	35.7	7.8
A visit to the university	43.7	14.3
Reputation of the course	60.8	24.0
Not an issue – obtained through clearing	10.8	7.1
Recommendation by family or friend	16.0	3.7
Reputation of the university	43.1	7.0
Liked the university itself	43.6	5.1
Wanted to be in the general locality/region	31.8	3.7
Other	18.6	1.9

Interesting and significant differences were found when the factors were explored in terms of the broad ethnic categories. Factors that proportionally strongly influenced more non-white respondents were: having a relative who was already studying at the university (which strongly influenced 8.4% of non-white and 4.5% of white respondents); and not an issue because the place was obtained through clearing (16.1% of non-whites were strongly influenced by this compared with only 6.2% of whites). Both of these factors add to results already reported, where we found (in 6.26) that family networks had more influence on decision-making amongst non-white respondents, and that non-whites were more likely to have obtained their place at university through clearing (this is also discussed further in 6.32 below). Furthermore, when these factors are analysed with gender as well, 19.7% of non-white males (but only 5.6% of white males) said that their choice of university was not an issue because they had obtained their place through clearing; this result was also significant for females, with 14.4% of non-white females, compared with 6.4% of white females, having obtained their place through clearing, meaning that their choice of university was not an issue.

Factors that proportionally and significantly strongly influenced more white respondents were: liked the city (which strongly influenced 41.6% of white and 29.1% of non-white respondents); a visit to the university (52.4% of white respondents were strongly influenced by this compared with 34.0% of non-white respondents); and liked the university itself (a factor strongly influencing 49.6% of white but only 36.9% of non-white respondents). Being positively influenced by liking the city that the university was based in was significant for

both white males and females (41.3% of white males compared with 28.5% of non-white males, and 41.7% of white females compared with 29.4% of non-white females, were strongly influenced by the city). A visit to the university strongly influenced 55.0% of white females, but only 34.6% of non-white females. This factor was not of significance when white and non-white males were compared. Liking the university itself was significant for both white males and females (44.8% of white males compared with 30.1% of non-white males, and 51.1% of white females compared with 40.1% of non-white females, were strongly influenced by liking the university itself). Once again, these results suggest that there were qualitative differences in terms of the types of factors – and the relative strength of influence of factors – influencing the choices and decisions of respondents according to their gender and ethnicity.

However, when the most influential factor was explored, three factors emerged – reputation of the course (24.0%), proximity to family/home (22.7%) and a visit to the university (14.3%) – as explaining the choice of institution for more than three-fifths of the total respondents. Although we did not find any statistically significant differences in relation to gender, the variable was significantly different when explored in relation to ethnicity. Amongst non-white respondents, the three most influential factors were: reputation of the course (26.9%); proximity to family (26.2%); and not an issue because their pharmacy place was obtained through clearing (11.3%). On the other hand, amongst white respondents, the most influential factors when choosing their institution were: the reputation of the course (21.6%), proximity to family (19.4%), and a visit to the university (18.2%). Only 3.4% of white respondents said that their choice of institution had not been an issue because they had obtained their place through clearing.

Looking within ethnicity, some striking results were found. Beginning with reputation of the course, we found this was the most influential factor for only 13.4% of Pakistani respondents, but 30.6% of Indian and 31.9% of black African respondents. Proximity to family/home was the most influential factor for 53.8% of Bangladeshi respondents, 41.5% of Pakistani and 26.9% of Indian respondents – and, not surprisingly, for only 4.7% of white Irish, who were, presumably, mainly living a long distance from their family/home in Ireland. The item ‘visit to the university’ was selected as the most influential in choosing their university for 19.3% of white British, 15.3% of white Irish and 14.9% of black African compared with only 8.3% of Indian respondents. Finally, obtaining their place through clearing was the most influential factor for 13.5% of Indian, 12.8% of black African, and 12.2% of Pakistani respondents.

Since the factor relating to proximity to home/family showed the most variation when analysed in terms of ethnicity, further exploration was undertaken. At this level of analysis some ethnic groups such as Bangladeshi and Chinese, and respondents of dual heritage, had to be removed from the analysis. However, results show that amongst males, for 25.3% of white British, 25.88% of Indian and 36.4% of Pakistanis being close to home or family was the most influential factor. While this was not significant amongst male

respondents, it was amongst females, where 21.6% of white British, 27.5% of Indian, and 44.9% of Pakistani female respondents said that being close to home/family was the most important factor in choosing their university.

Contextualising this data in terms of the individual schools of pharmacy, we found that 46.1% of respondents at De Montfort, 37.1% at both Aston and Sunderland, and 34.6% of respondents at Strathclyde said that proximity to home/family was the most influential factor when choosing their university. At the other end of the range, only 3.9% of respondents at Nottingham and 7.9% at Bath said that they had chosen to study at that university primarily because of its proximity to family. These results indicate that at some schools of pharmacy, the motivation for significant proportions of students to study there was location, and in particular the relative proximity of the school to family/home.

Thinking about the implications of the results presented above, it appears that amongst the respondents to Early Choices, several different factors accounted for what they were looking for in a university – for some, visiting the university was the best way to choose a university, but for others, it was the course itself or the location of the university in relation to their family/home. Evidence from other studies suggests that while for most students, their priority is their course, it is also crucially important for students to find a place to study that they will feel happy living in for the next three or four years, and that part of this depends on a range of factors relating to a student's life outside their university work, such as the city a university is based in or the support systems available to students provided by their families.

Finally, once again we found that there were clear relationships between the factors influencing respondents and their ethnicity. In particular, differences were found in the relative influence of factors such as a visit to the university, the city a university was based in, and the university itself, which tended to more strongly influence white than non-white respondents. However, since another significant difference was between those for whom the choice of university was not an issue since they had got their place through clearing – this was true of proportionally more non-whites than whites – many respondents in the sample may not have had the opportunity to visit their university prior to studying there, and hence would not have been influenced by a visit to the university.

6.32 Visit to the university

This question was included to help determine whether students who have not visited the university beforehand have a greater likelihood of not completing the course, or of being a member of the drifters in the sample. As we have already seen in 6.31, a visit to the university was the most influential factor in choosing an institution for 14.3% of respondents, and data generated by this question will enable us to identify the types of students most likely to have visited the university and hence to have – hopefully – made an informed choice of institution.

Almost three-quarters of respondents (73.4%) had visited the university where they were studying at the time of completing the survey prior to deciding to study there. Although proportionally more female (74.9%) than male (69.4%) respondents had made this visit, this result was not statistically significant. However, significantly more white (81.3%) than non-white (65.1%) respondents had visited the university prior to deciding to study there: and when this result is analysed controlling for gender, it can be seen that significantly larger proportions of white females than non-white females visited the university prior to deciding to study there (82.6% compared with 66.1%), a trend also found amongst male respondents, where 77.1% of white males but only 62.9% of non-white males had visited their university in advance of deciding to study pharmacy there.

When ethnicity was explored in more detail, we found that 89.6% of white British respondents had visited the university before they chose to study there: this compares with 73.6% of Pakistani, 68.5% of Indian, 59.4% of black African and only 50.0% of white Irish, a result which was statistically significant. This trend of proportionally more white British respondents, and less Indian respondents, than the average in the sample was the same for both males and females: while 86.4% of white males had visited the university prior to studying there, only 66.2% of Indian males had (the average for males was 69.4%); and amongst the female respondents, 90.5% of white British but only 69.7% of Indian females had visited the university prior to deciding to study there (compared with an average of 74.9% of all females).

It was, perhaps, not surprising to find that amongst those who had not chosen pharmacy as their first choice of undergraduate degree 40.9% had also not visited the university prior to choosing to study there. This figure rises to 43.3% amongst those male respondents for whom pharmacy was not a first choice (compared with an average of 30.6% of all male respondents in the sample who had not visited the university prior to choosing to study there). Amongst female respondents for whom pharmacy was not a first choice 39.8% had not visited the university they were studying at, which is also significantly higher than the proportion of all females in the cohort who had not visited the university prior to studying there (a figure of 25.1%). Finally, analysing these variables in terms of those who said that pharmacy was their first choice, 81.4% of white respondents had visited the university compared with only 65.1% of non-white respondents.

These results once again suggest that differences can be found amongst respondents, in general, in terms of the ways they approached the process of choosing an institution, and, in particular, in terms of whether they visited the university they were studying at prior to beginning to study pharmacy. However, these results are not surprising, since a consistent pattern of differences have been found amongst respondents – for example, we found in 6.26 that whites were proportionally more likely to value a visit to a university as a method for helping them choose to study pharmacy – and so results here also add validity to results of other questions in the survey.

6.33 Method of application to university

A question asking respondents about the method of application to university used was included to provide us with data relating to the process of how respondents chose their institution. This question was included because studies of the higher education applications process have found that many students who apply to university through clearing drop-out of their course because they were matched to a course they would not have chosen to study otherwise.[20] There is also evidence to suggest that students who apply to university through clearing have a greater chance of lower achievement later in their career. This question, then, will identify those who applied through this method, and will provide us with valuable baseline data to be used for comparative purposes in the future.

Since students who applied to study pharmacy through clearing were less likely to have visited the university they were studying at prior to starting their MPharm course (see 6.32 above) it is also possible that these members of the sample may share some characteristics of those who are less committed to the profession (such as particular gender and ethnic profiles – see 6.25). The results of responses to this question will therefore be used in relation to question 6.34, where we explore respondents' strength of desire to study pharmacy when they entered pharmacy school.

Analysis of the relevant data shows that 85.8% of respondents applied to university through UCAS, 4.4% applied direct to the university, and 9.8% applied through clearing. There was no significant difference between male and female respondents, with 84.6% of male and 86.3% of female respondents applying through UCAS. However, method of application varied in statistically significant different proportions for white and non-white respondents, with 92.6% of white but only 78.4% of non-whites applying to university through UCAS.

Looking at those respondents who applied through clearing, it can be seen that although only 2.9% of white males, and 3.4% of white females, applied to university through clearing, a much larger proportion of both non-white males (19.5%) and non-white females (16.3%) applied using this method.

When ethnicity and method of application are explored further, it can be seen that 94.7% of Bangladeshi, 92.9% of white British, 92.7% of white Irish, 76.9% of Pakistani and 74.1% of Indian applied through UCAS. Statistically significant differences were found for both male and female respondents, with the same trend observed of more than 90% of white British respondents (92.2% of males and 93.1% of females) having applied through UCAS, compared with around three-quarters of Pakistani and Indian respondents (77.8% of Pakistani males, 76.4% of Pakistani females, 71.8% of Indian males and 75.2% of Indian females applied through UCAS).

Finally, looking within those who applied to university through clearing it can be seen that 14.7% of those respondents who applied through clearing were white British, 16.5% were Pakistani, and 42.2% were Indian. Controlling for gender, some significant differences emerged: while only 10.8% of male respondents who applied to university through clearing were white British (compared with 51.4% who were Indian, and 21.6% who were Pakistani), proportionally more females who were of white British ethnic origin applied through clearing (16.7% of all female respondents who applied through clearing were white British, compared with 37.5% who were Indian, and 13.9% who were Pakistani). To put these figures into context, of all male respondents in the sample, 32.8% were white British, 22.6% Indian, and 11.5% Pakistani; and for female respondents, 43.6% were white British, 18.1% Indian, and 7.0% Pakistani. These results clearly indicate that certain groups of respondents were much more likely to have applied to university through clearing than others.

In the following section this group who applied through clearing will be explored in terms of their strength of desire to study pharmacy when entering pharmacy school. Here we would expect to observe that those respondents who applied to university through clearing would be more likely to have a weak or very weak desire to study pharmacy.

6.34 Strength of desire to study pharmacy

Where other questions such as 'Was pharmacy your first choice of what to study at university?' were included in Early Choices to measure the extent to which a group of respondents may have drifted into pharmacy because they had failed to secure a place at university to study their first choice of undergraduate degree, a question in this section of the questionnaire was included to measure respondents' commitment to studying pharmacy when they entered pharmacy school. Data generated by responses to this question reveal the extent to which career commitment varied at the start of the MPharm course, and provides us with possible insight into *how much* career commitment differed across respondents at the start of their degree.

Responses to this question can also be used as a way of identifying those groups within the sample who were proportionally more likely to have been strongly committed to studying pharmacy when they began their studies but who are at later points in time – such as when they enter their pre-registration training post or when they enter pharmacy practice – less committed to working as a pharmacist or who have lower levels of satisfaction with the profession. Such results may help us to identify, for example, differences between those who drifted into the profession and those who drift within the profession at later points in time, perhaps in relation to specific life events or types of pharmacy career.

When data were analysed relating to strength of desire to study pharmacy we found that more than three-quarters of all the respondents in the sample (79.2%) said that their desire to study pharmacy had been very strong or strong when they had entered their school of pharmacy: a further 17.5% said their desire was moderate, and a final 3.3% described their motivation to study pharmacy as weak or very weak. There was no significant difference between the male and female respondents, although proportionally more female (79.3%) than male (78.7%) described their desire to study pharmacy as very strong or strong. However significantly more white (81.5%) than non-white (76.7%) respondents were strongly or very strongly motivated to study pharmacy, a finding that was true of both male and female whites when compared with non-whites. When ethnicity was explored further it was not significant, although we observed that the largest proportion of white Irish respondents reported that their desire to study pharmacy had been very strong or strong (87.0%), followed by black African (82.8%) and white British (81.2%) respondents: on the other hand, 68.4% of Bangladeshi, 76.3% of Indian and 79.3% of Pakistani respondents said that their desire to study pharmacy had been strong or very strong when they had started studying their MPharm course.

As first discussed in 6.25, when those who had either a moderate or weak desire to study pharmacy when they entered their school of pharmacy were explored in relation to those for whom studying pharmacy was not a first choice, we found that the relationship between the two variables was statistically significant, with 9.4% of respondents having both a weak or

moderate desire to study pharmacy and not choosing to study pharmacy as a first choice.

Looking within those for who pharmacy was not their first choice of undergraduate course, it was found that 41.1% had a moderate, and 71.1% a weak desire to study pharmacy when they entered pharmacy school. Significantly, proportionally less male than female respondents who did not choose pharmacy first had a weak desire to study pharmacy on entering pharmacy school (60.0% compared with 78.3%). There were also fewer white (61.5%) than non-white respondents (76.0%) who did not choose pharmacy as their first choice that also had a weak desire to study pharmacy, a difference that was also statistically significant. Finally, within those for who pharmacy was not a first choice, both non-white male and female respondents were proportionally more likely to have a weak desire to study pharmacy: 50.0% of white males compared with 66.7% of non-white females, and 71.4% of white females compared with 81.3% of non-white females who did not choose pharmacy first had a weak desire to study pharmacy.

Proportionally more respondents who had applied to study pharmacy through clearing had a moderate or weak desire to study pharmacy than in the sample as a whole (41.1% compared with 20.8%), a finding that was statistically significant.

When reasons for choosing pharmacy (see 6.28) were analysed in relation to desire to study pharmacy, we found that 51.1% of those respondents who said they were strongly influenced to choose to study pharmacy because they couldn't think of anything else had a strong desire to study pharmacy, compared with 79.3% in the sample as a whole who had a strong desire to study pharmacy. This relationship is also statistically significant when explored in relation to gender: 23.3% of male respondents and 9.7% of female respondents who were strongly influenced to study pharmacy because they couldn't think of an alternative had a weak desire to study pharmacy when entering pharmacy school, compared with 3.1% of all respondents. Another significant – and striking – difference was found when ethnicity was analysed: 9.4% of white but 18.2% of non-white respondents who couldn't think of anything else to study had a weak desire to study pharmacy. Finally, amongst respondents who were strongly influenced to choose to study pharmacy because they couldn't think of anything else and who had a weak desire to study pharmacy on entering pharmacy school, there were proportionally fewer white males (33.3%) than non-white males (55.6%) and fewer white females (20.0%) than non-white females (3.3%).

Not surprisingly, amongst those who chose to study pharmacy because they had always wanted to be a pharmacist, 98.0% had a strong desire to study pharmacy when they entered pharmacy school, a relationship that was statistically significant.

The results presented here suggest that, overall, the majority of the sample were strongly committed to studying pharmacy when they entered pharmacy. However, we also found evidence that applying to study pharmacy through

clearing, or studying pharmacy when it was not a respondent's first choice of undergraduate degree, were statistically significantly related to a respondent's strength of desire to study pharmacy.

6.35 Chosen career path at start of pharmacy degree

Early Choices contained a question asking respondents to describe the main career path they had identified as their career choice at the start of their pharmacy degree. The purpose of including this question was to provide the team with evidence about the original career choice for different groups of respondents, so that this data can be compared with subsequent pharmacy practice. These data may also provide us with early indications of possible gender niches in the profession. Finally, results will also show sectors of practice that were most widely recognised at the start of the MPharm course, and provide us with data about the range and extent of respondents' career awareness at the start of their pharmacy career.

The majority of respondents (50.0%) said that on entering pharmacy school they hoped to practice pharmacy in the community sector of the profession. Community pharmacy was followed by hospital pharmacy (18.2%); a mixture of two of more sectors (13.7%); no clear idea (9.9%); research in industry (4.4%); other work in industry (2.3%); primary care pharmacy (0.8%); a career outside pharmacy (0.5%) and an academic career (0.1%). These results are shown in Figure 2, below, where career intentions identified by more than 1% of the sample are presented (and the two options for industry careers are combined).

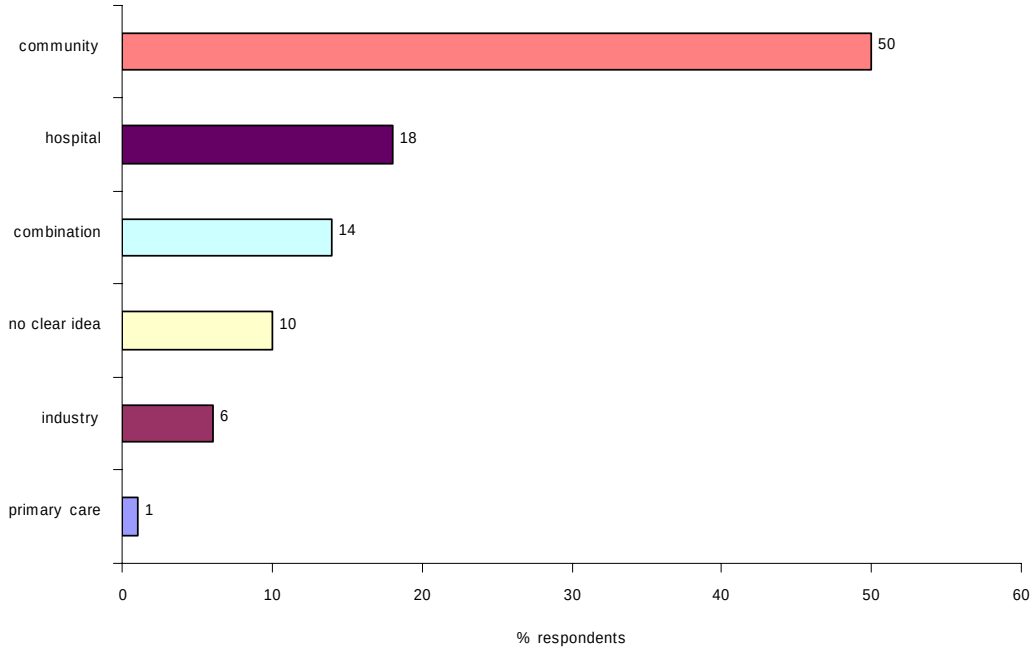

Figure 2: Chosen career path at start of pharmacy degree

While no statistically significant differences in chosen career paths were found when the data were explored in relation to gender, Figure 3 shows that, proportionally, female respondents were more likely to have identified hospital

practice for their future career (the chosen career for 19.9% of female respondents compared with 14.0% of males) and male respondents to have chosen industry (the chosen career for 8.1% of male respondents compared with 6.2% of female respondents).

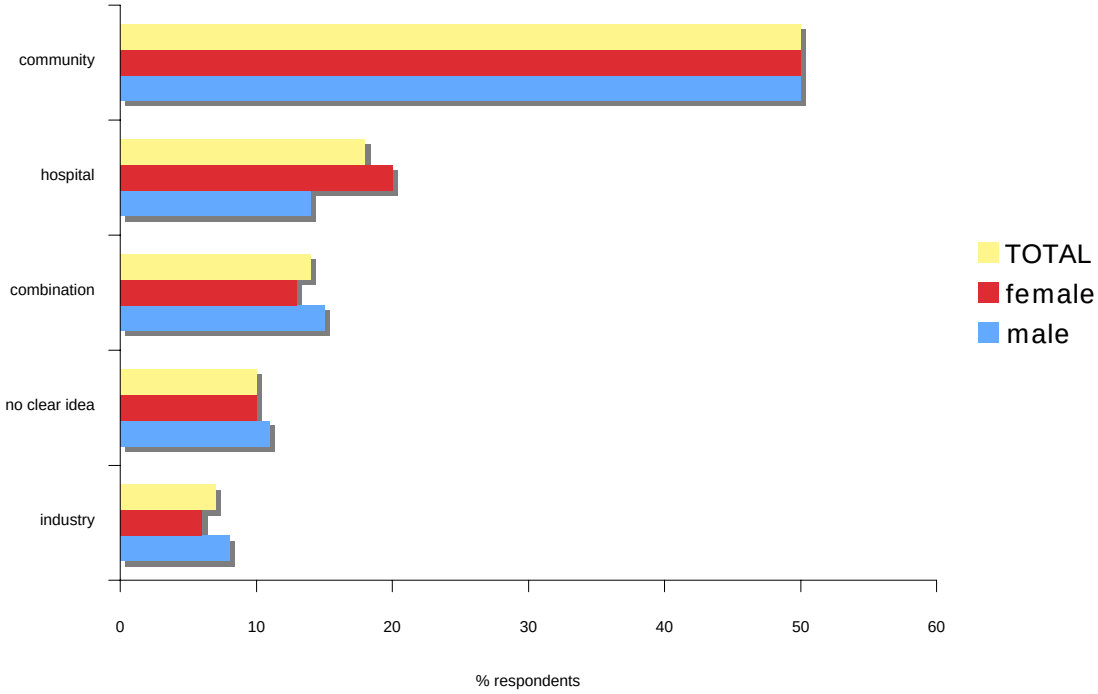

Figure 3: Chosen career path at start of pharmacy degree by gender of respondents

Figure 3 also shows that male respondents were proportionally less committed to one sector for their future career (14.6% of male respondents described their main career path as a combination of two or more sectors of practice compared with 13.4% of female respondents) and that male respondents were proportionally more likely to have been undecided about their career when they began their pharmacy degree (10.6% of male respondents said they had no clear idea of the career they wanted when they began studying pharmacy compared with 9.6% of female respondents).

Once again, no statistically significant differences were found when intended main career paths were analysed in terms of collapsed ethnic group. However, as can be seen in Figure 4, the community and hospital sectors were proportionally more popular career destinations amongst white respondents, while a mixture of two or more sectors and industry were proportionally more popular amongst non-white respondents.

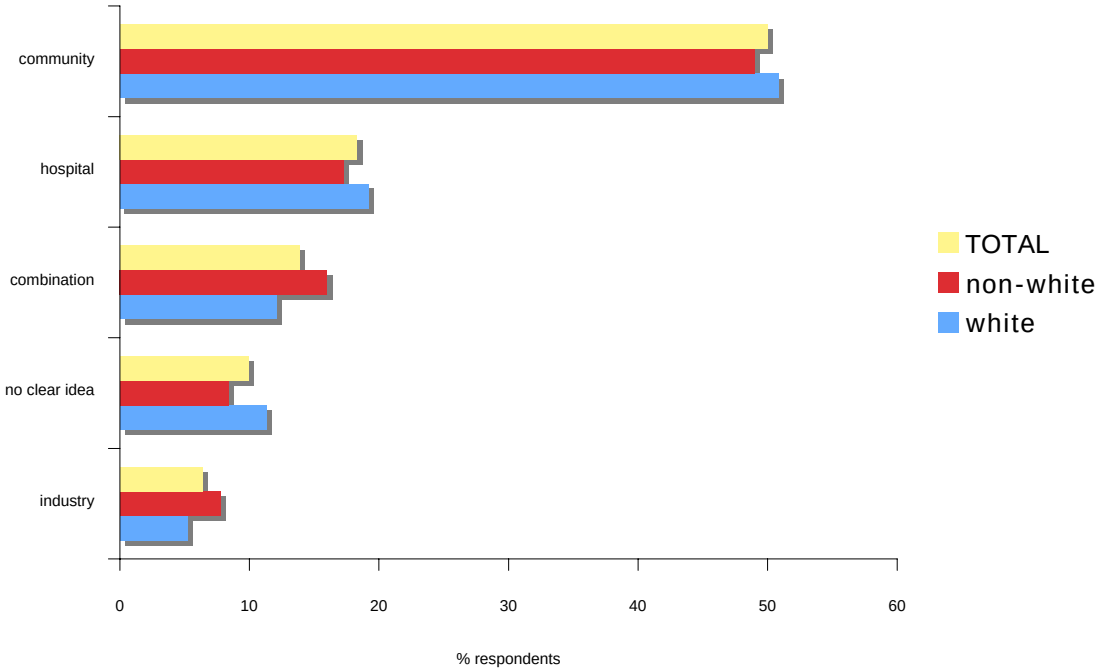

Figure 4: Chosen career path at start of pharmacy degree by collapsed ethnicity of respondents

Overall, these results show wide variation in the sectors of the profession identified as respondents' career choice at the start of their pharmacy degree, with some sectors – such as primary care pharmacy – relatively unpopular career destinations for respondents when they were beginning their pharmacy degree. However, as a relatively new sector of pharmacy employment, it is not altogether surprising that primary care pharmacy was not the chosen career path amongst many of our respondents.

When these results are contextualised in terms of the pharmacy workforce census data, it appears that proportionally community pharmacy was under-represented as a career choice amongst respondents, since 2003 census data show that 72.5% of those actively employed within the profession work in the community sector. However, 21.5% of respondents to the 2003 census were actively employed in hospital pharmacy, a figure which is quite close to the 18.2% of respondents who identified hospital pharmacy as their chosen career.

These results suggest that many respondents may have to revise their intended sector of practice when they begin working, and that this may lead to dissatisfaction with working as a pharmacist, because the reality of the pharmacy workforce is that proportionally more jobs are based in community pharmacy, and less in industry.

6.36 Pharmacy degree meeting expectations

This question was included to help us to establish whether there was a link between career commitment and initial expectations of the course. As we saw in 6.22, some groups of respondents were proportionally more likely to have had some practical experience of pharmacy – for example, white respondents were more likely to have had a Saturday job in a community or hospital pharmacy and non-whites were more likely to have had a relative who was a pharmacist. In 6.22 we hypothesised that having prior exposure to pharmacy might mean that these groups of respondents would have more realistic expectations of the undergraduate programme and of subsequent pharmacy practice. We also speculated in 6.22 that those who had some practical experience of pharmacy would be less likely to become a member of the group we identified in 6.21 as 'drifting' into pharmacy practice.

As well as helping us to identify those respondents who might be less likely to be committed to working as a pharmacist because their pharmacy degree was not closely meeting their expectations, data generated by the responses to this question may help us to establish whether there is a link between those who felt that the course was not what they expected and those who leave the profession before undertaking pre-registration training or leave the profession before retirement.

More than three-quarters of respondents (78.3%) said that the pharmacy degree was either very or quite similar to what they expected; a further 14.8% said it was either not really what they expected or very different to what they expected; the remaining 6.9% said they weren't sure what to expect from the course. There were no significant differences between male and female respondents in relation to whether the MPharm was meeting their expectations, but there were differences between ethnic groups: white respondents were proportionally less likely to say that the pharmacy degree was very similar to what they expected than non-white respondents (16.9% compared with 23.0%). However, controlling for gender with ethnicity, no differences were found.

As hypothesised, a statistically significant relationship was found when expectations of the pharmacy degree were explored in relation to practical experience of pharmacy before starting the pharmacy degree. Of those who had no practical experience of pharmacy, 10.8% said they were not sure what to expect from the pharmacy degree (compared with 4.4% who had experience of pharmacy). In addition, 13.0% of respondents who had had no prior exposure to pharmacy evaluated the pharmacy degree as not really what they had expected (compared with 4.4% of those who had some exposure to pharmacy). Significantly larger proportions of female than male respondents who had no practical experience of pharmacy felt that they weren't sure what to expect from the pharmacy degree (11.9% of those females with no experience of pharmacy prior to their degree felt that they did not know what to expect from the course, compared with 4.8% of those with prior experience; and amongst male respondents 11.9% of those with no experience of pharmacy prior to their degree felt that they did not know what to expect from

the course respondents, compared with 4.8% of those who had prior experience of pharmacy).

Believing that the pharmacy degree was not meeting their expectations also had a significant relationship with respondents' intentions to work as a pharmacist in the future. We found that while 11.6% of all respondents felt that the degree was not really what they expected, this proportion rises to 16.7% of those who strongly agreed or agreed with the statement 'I want to do something other than be a pharmacist'. Looking within those respondents who wanted to do something other than be a pharmacist in the future, only 34.9% felt that the degree was either very or quite similar to what they expected, and 54.3% felt that the degree was either not really what they expected or very different to what they expected.

The results of analyses of data generated by this question suggest that respondents' expectations of the pharmacy degree are significantly related to whether they have had any practical experience of the profession before they began their degree: this finding indicates that early career awareness is an important mediator of respondents' expectations of the MPharm course. Furthermore, our results suggest that when respondents felt that there was a mismatch between their experiences of studying pharmacy and their expectations of the MPharm course they were more likely to not want to work as a pharmacist in the future.

6.37 Repetition of any exams

The primary reason for including this question was to establish whether there is a relationship between those who have struggled with the course and the kinds of career outcomes achieved later in pharmacy practice. We were also looking to determine whether those respondents who had had to repeat some of their pharmacy examinations were also more likely to share some of the characteristics with the 'drifters' within the sample.

Less than half of all the respondents (43.3%) in the sample had had to repeat some of their pharmacy exams. The profile of those who had repeated some of their exams varied, with significantly more male than female respondents having repeated some of their exams (53.2% compared with 39.4%). Proportionally, and statistically significantly, more non-white (50.5%) than white respondents (36.3%) had had to repeat some exams, and the largest differences between groups of respondents were between white and non-white females who had had to repeat some of their exams (31.6% compared with 48.5%).

Statistically significant relationships were not found between this variable and whether pharmacy was a respondents' first choice of undergraduate degree; or between it and a respondents' desire to study pharmacy when entering pharmacy school; or between it and the extent to which the pharmacy degree was felt to be meeting a respondent's expectations. However, those who had applied to study pharmacy through clearing were significantly more likely to also have had to repeat some of their exams (56.3% of those who applied through clearing had repeated some exams, compared with 42.0% of those who applied to study pharmacy through UCAS). These results suggest, then, that the method of application is most closely related to whether a respondent had repeated some of their undergraduate examinations: and, furthermore, indicates that failing an undergraduate course may be more of an academic matter than a sign of a lack of commitment to studying or practicing pharmacy.

6.38 Considered changing degree course and reasons why

These two questions were included to help establish how many respondents had experienced problems while studying pharmacy, and to determine the sources or reasons for those problems. Once again, we were also looking to establish whether there was a link between those who had considered changing course or dropping out and the kinds of career outcomes achieved later in pharmacy practice.

Overall, around 1/5 (19.8%) of respondents had considered changing courses or dropping out of their pharmacy degree. Proportionally more male (23.2%) than female (18.4%) respondents had considered this, but this difference was not found to be statistically significant. However, ethnicity was statistically significant: 22.2% of white and 16.5% of non-white respondents had considered changing courses or dropping out of their pharmacy course. Proportionally more white males (26.6%) than non-white males (20.2%) had considered changing courses or dropping out, although once again this was not statistically significant. Looking within the female respondents, we found significant differences between the proportions of white females (20.8%) and non-white females (14.7%) who had considered changing course or dropping out.

Respondents who had considered changing courses or dropping out of their pharmacy course during their degree were asked their reasons for considering this. A list of five alternative reasons was given, and respondents were asked to select all that applied to them. Figure 5 gives the proportions of responses.

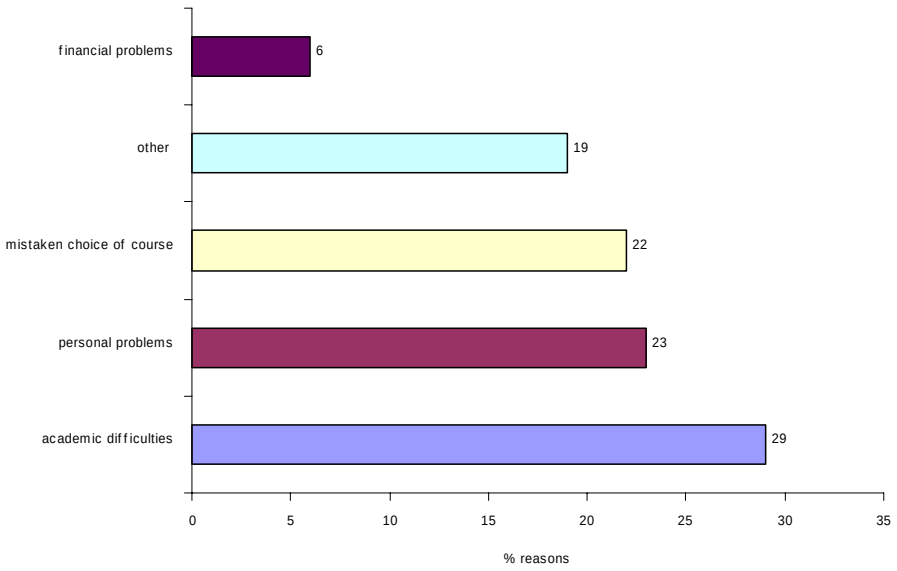

Figure 5: % responses by reason for having considered changing course or dropping out

There were no significant differences in terms of the gender or ethnicity of respondents and the reasons given for having considered changing courses or dropping out.

When this question was explored further in terms of other questions in Early Choices, some significant results were found. 25.9% of those respondents who had considered changing courses or dropping out felt that the pharmacy degree was not really what they had expected, compared with only 8.1% of respondents who had not considered changing courses or dropping out. Differences between those respondents who had, and those who had not, considered changing course or dropping out in relation to their expectations of the MPharm course were most noticeable when this question was analysed in terms of those who said the course was very similar to what they expected. Here it can be seen that 6.6% of males who had considered dropping out felt the course was very similar to their expectations, compared with 22.7% of males who had not considered dropping out. This trend was also found when female respondents were analysed (3.9% of females who had considered dropping out said the course was very similar to what they had expected, compared with 23.8% of females who had not considered dropping out); and when white and non-white respondents were analysed (with 4.6% of white respondents who had considered dropping out saying the course was very similar to their expectations, compared with 20.2% who had not considered dropping out; and 5.8% of non-white respondents who had considered dropping out said the course was very similar to what they had expected, compared with 26.7% of non-white respondents who had not considered dropping out). Proportionally, non-white females who had considered dropping out were the least likely to have said the course was very similar to their expectations (2.6%), followed by white males (2.6%) – and non-white males the most likely to had said the course was very similar to their expectations (11.8%).

Those who had considered changing courses were also proportionally – and significantly – more likely to have had a weak or moderate desire to study pharmacy when they entered pharmacy school (39.9% of those who had considered changing courses or dropping out had had a weak or moderate desire to study pharmacy on entering pharmacy school compared with 16.3% of those who had not considered changing courses or dropping out). Proportionally fewer male respondents (56.6%) than female respondents (61.8%) who had considered dropping out had had a strong desire to study pharmacy (compared with 85.2% of male and 83.4% of female respondents who had not considered dropping out who had a strong desire to study pharmacy when entering pharmacy school). There were also proportionally more white (64.6%) than non-white respondents (52.3%) who had considered dropping out who had had a strong desire to study pharmacy at the start of their MPharm course. Non-white males were the group with proportionally the fewest respondents who had considered dropping out and who had had a strong desire to study pharmacy (47.1%), and white females the group with the largest proportion who had considered dropping out but had had a strong desire to study pharmacy at the start of their course (65.2%).

Finally, 32.7% of those who had considered changing courses or dropping out agreed with the statement ‘I want to do something other than being a pharmacist’ compared with 15.2% of those who had not considered changing courses or dropping out of their pharmacy course. Proportionally more male

respondents than female respondents who had considered dropping out agreed with this statement (39.5% and 29.3% respectively), and more non-white (35.3%) than white (32.6%) respondents. The group who, proportionally, were most likely to both have considered dropping out and to have agreed with the statement 'I want to do something other than being a pharmacist' were white males (44.7%) and white females were least likely to (27.5%).

These findings suggest that a combination of factors were relevant when thinking about the reasons why some respondents had considered changing courses or dropping out. For example, we found that respondents who had considered dropping out were proportionally more likely to have felt that the course was not what they expected, and this suggests that experiences at university, while studying pharmacy, may have affected their commitment to the profession. It is possible that members of this group may well represent those respondents who feel that they had made a mistake in choosing to study pharmacy. This mismatch between expectations and experiences of studying pharmacy may in part explain why we also found a strong statistical link between this group who had considered dropping out or changing courses and those who don't want to be a pharmacist when they graduated. On the other hand, we also found that amongst those who had considered dropping out there were proportionally fewer respondents who had had a strong desire to study pharmacy when they entered pharmacy school than in the sample as a whole, and this implies that members of this group of respondents were, relatively, less committed to study the course itself before they entered pharmacy school (in contrast to those whose expectations of the course had led to them considering dropping out or changing course).

6.4 Choices about working after graduation

As well as collecting data on when and why students in the sample had chosen to study pharmacy, together with data on how they made this choice and on the reasons for this decision, Early Choices also sought to explore a set of choices made as undergraduates – choices about intended career paths, pre-registration intentions, and anticipated work patterns.

Questions in this section were designed to measure the proportion of respondents planning to do their pre-registration training, and both the sector and geographical location they hoped to complete their training in. In addition, a question asking respondents to evaluate how easy they anticipated securing their first choice of pre-registration post was included in this section as a way of establishing respondents' expectations of securing a pre-registration post in their preferred sector.

Influences on respondents' choice of pre-registration training post were also explored in this section of the questionnaire. These influences included extrinsic motivations for choosing a training post such as 'salary on graduation' and the influences of experiential learning such as 'clinical practice course at university'. Influences of the undergraduate curriculum were included here so that we could start to explore the ways that learning experiences may have shaped respondents' choices.[21] Other research has found that salary, location, personal fulfillment and the opportunity to use one's abilities and education to help patients are important factors affecting career choices of pharmacy students.[22-25] The results produced by this section of the survey will enable us to begin to understand the effects of various learning experiences and extrinsic motivations in this survey – something that the next questionnaire for this study, which has a more explicit focus on pre-registration choices, will also do, but in more detail.

Where career commitment in previous sections of this report has been explored through those aspects of early choices relating to choosing to study pharmacy or choosing to study at a particular institution, this section of the report looks at the expectations respondents had of their future career. Collecting data about expectations is central to the longitudinal design of this study, since intentions and expectations can be compared with subsequent experiences and practice. This data may provide valuable insights into the effects of not realising intentions or expectations on commitment to the profession.

Finally, this section of the questionnaire will help us to establish which groups of respondents intend to enter particular sectors of practice, and to determine whether groups such as the 'drifters' have different practice intentions.

6.41 Action immediately after graduation

The first question in this section covering choices about working after graduation asked respondents about what they hoped to do immediately after graduation. The purpose of including this question was to help differentiate between and filter out the students who did not intend to go on to their pre-registration training straight away.

Furthermore, we were interested in exploring possible shared characteristics between those respondents who said they did not intend to go straight into pre-registration training in GB and those already identified as 'drifters' in the sample.

More than 90% (92.7%) of respondents said they intended to go straight into their pre-registration training in GB. The results of those not intending to go straight into pre-registration training were: 1.8% were undecided; 1.2% intended to return to their home country to complete their training there; 1.0% intended to go onto further study; 0.9% intended to take a break or a gap year before starting their pre-registration training; and 0.4% hoped to go straight into a graduate job where they would not need their pre-registration qualification. The remaining 1.9% said they intended to do something 'other' than those options already listed above.

Although proportionally more female (93.8%) than male (89.9%) respondents intended to go straight into their pre-registration training, and more males (2.5%) than females (0.7%) to return home to complete their training, these differences were not statistically significant. No significant differences were found between white and non-white respondents, with 93.2% of white and 92.5% of non-white respondents intending to go on to their pre-registration training. However, proportionally, non-white males represented the largest group of respondents who intended to do something other than go straight into their pre-registration training in GB (with 10.7% of non-white males not intending to go on to pre-registration training in GB compared with 8.5% of white males, 6.0% of non-white females and 6.3% of white females).

Looking in more detail at those who did not intend to go straight into their pre-registration training (7.3% of the sample), it can be seen that 41.5% agreed with the statement 'I want to do something other than being a pharmacist'. This result was statistically significant. Proportionally more male (51.6%) than female (35.3%) respondents, and more non-white (42.1%) than white (37.5%) respondents, who did not want to go straight into their pre-registration training agreed with this statement – these differences were both statistically significant. The largest group, proportionally, who did not want to go on to GB pre-registration training and who did not want to be a pharmacist were non-white males (52.9%) – and the smallest group, proportionally, were non-white females (33.3%).

Other statements about pharmacy careers and working as a pharmacist that were statistically significantly related to respondents' intentions after graduation were: I would recommend studying pharmacy to anyone (71.4% of

those who said they intended to go straight into their GB pre-registration training in GB agreed with this statement, compared with 54.9% of those who did not intend going on to their GB pre-registration training); I am undecided about my future career (23.2% of those who said they intended to go straight into their GB pre-registration training in GB agreed with this statement, compared with 38.5% of those who did not intend going on to their GB pre-registration training); I see pharmacy as a career until I retire (72.1% of those who said they intended to go straight into their GB pre-registration training in GB agreed with this statement, compared with 52.4% of those who did not intend going on to their GB pre-registration training); and I would not want to work outside pharmacy (50.2% of those who said they intended to go straight into their GB pre-registration training in GB agreed with this statement, compared with 30.5% of those who did not intend going on to their GB pre-registration training).

These results suggest that those respondents who did not want to go straight into their pre-registration training also had lower levels of commitment to remaining in the profession and that they were less decided about the nature or direction their future careers would take. Furthermore when this group was analysed in relation to strength of desire to study pharmacy, we found that significantly fewer had had a strong desire to study pharmacy when they entered pharmacy school (only 59.0% of those who did not intend to go on to their pre-registration training described their desire to study pharmacy as having been strong, compared with 81.0% of those who intended to go straight into their pre-registration training). Given this finding, it was not surprising that members of this group were significantly less likely to recommend studying pharmacy to others.

6.42 Certainty of choice for future sector of practice

The purpose of including a question here about certainty of choice was primarily to enable us to begin to build up a picture of those respondents who had clearly decided on their future career. Those with a clear intention about the sector they wanted to work in – we hypothesised – would be less likely to share the characteristics of the drifters in the sample, and more likely to be committed to the profession. In addition, this question was included to provide us with data for comparison with data collected at later stages of the study.

Just over half (52.2%) of respondents had a clear idea about the branch of the profession they wanted to work in once they had qualified as a pharmacist. Significant differences between male and female respondents in terms of their certainty about future sector of practice were found, with 13.1% of male but only 6.4% of female respondents having no clear intention of the sector of practice they wanted to work in the future. Figure 6 below shows the gender differences in intentions for future sector of pharmacy practice.

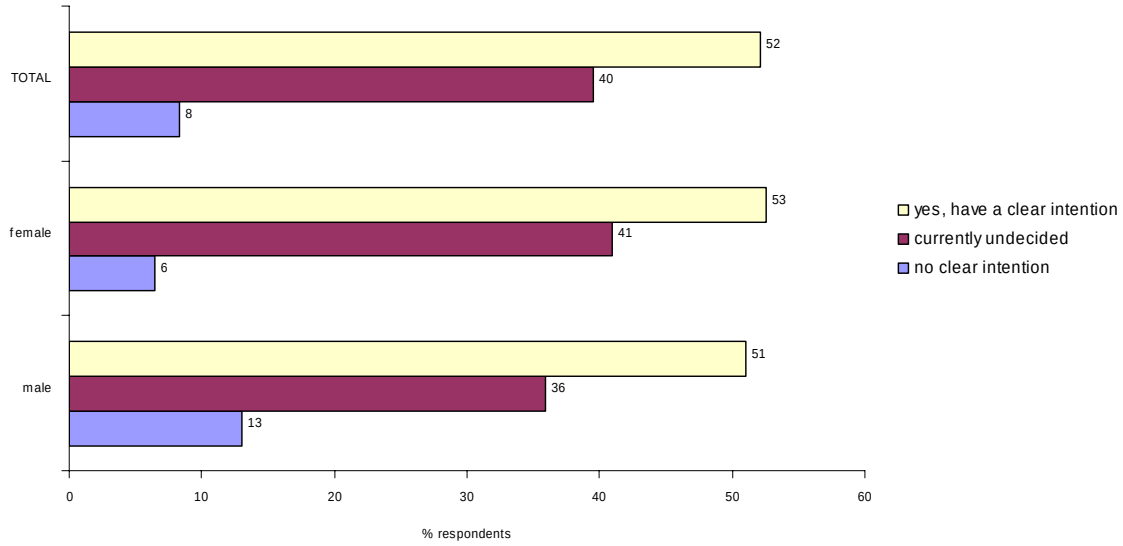

Figure 6: Certainty of intention about future sector of practice gender of respondents

When responses were analysed in relation to the ethnic group of respondents, we found that a significantly larger proportion of non-whites (9.9%) than whites (6.6%) had no clear intention, and, conversely, that a larger proportion of whites (55.5%) than non-whites (47.9%) had a clear intention about their future pharmacy practice. This finding once again demonstrates the statistical relationship between ethnicity and the career choices process, first found in 6.2, where we saw that there were significant differences between ethnicity and the ways respondents had chosen to study pharmacy.

Although proportionally more white males (51.7%) than non-white males (50.6%) had a clear intention for future pharmacy practice, this was not

statistically significant – but a significantly larger proportion of white females (56.8%) than non-white females (46.6%) were found to have a clear intention about the branch of the profession they wanted to work in after qualifying as a pharmacist.

Looking within the broad ethnic categories, we found that while 6.4% of white British, and 9.8% of Indian, respondents had no clear intentions, 57.1% of white British and 39.1% of Chinese respondents had a clear intention about the branch of the profession they intended to work in after completing their pre-registration training. These differences in career decidedness were once again statistically significant.

Certainty about future practice was not significantly related to variables such as 'was pharmacy your first choice?' or 'method of application to university' – variables that we have argued in this report indicate those respondents who were more likely to have drifted into studying pharmacy. However, as can be seen in Figure 7 below, there was a (statistically significant) relationship between motivation to study pharmacy at the start of the MPharm course and intentions for future practice: of those respondents who had a very strong desire to study pharmacy only 24.0% had no clear intention about the branch of the profession they wanted to work in after qualifying as a pharmacist compared with 47.2% who had a clear intention.

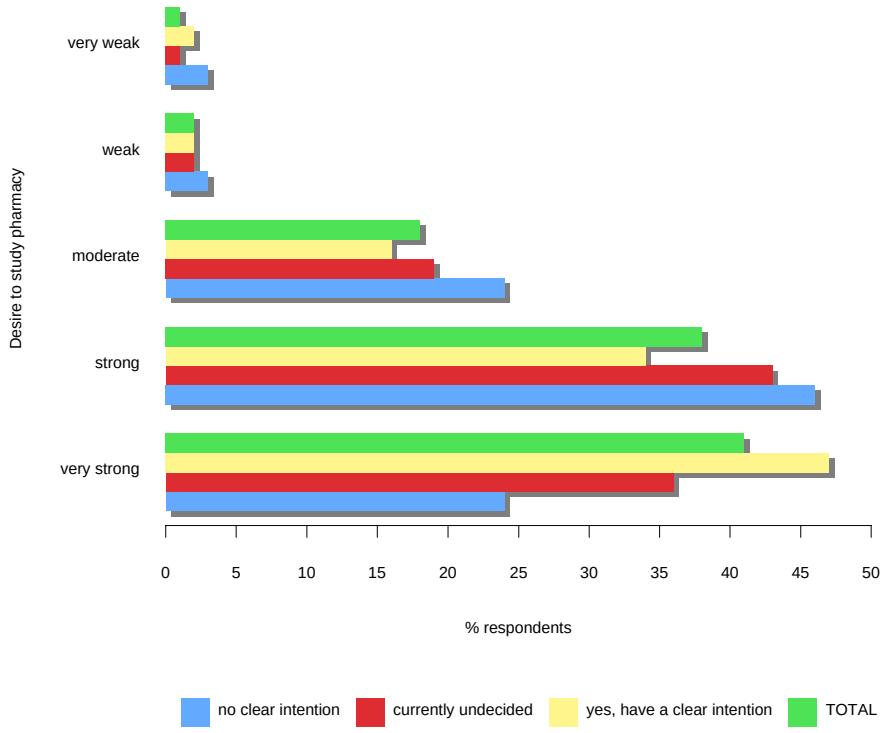

Figure 7: Certainty of intention about future practice by desire to study pharmacy on entering pharmacy school

In 6.43 intentions for future practice will be explored in association to where respondents hoped to do their pre-registration training to see whether some

sectors are related to career decidedness. We shall also return to this in 6.51 where early career intentions are analysed.

6.43 Plans for pre-registration training

This question was included to collect data about the branch of training respondents hoped to work in. The purpose of this question was to identify, at an early stage, whether some groups of respondents perceived particular sectors as more desirable then others – because we know from Hassell's analysis of historical and contemporary trends in the workforce that gender and ethnic niches exist in the profession.[1,9,18,26] Knowing which groups have preferences for particular types of posts may also provide an indication of the existence of career myths. We have already seen, in 6.25, that different ethnic groups may adhere to different career myths, and that the existence of career myths means that some career options are believed to be more suitable than others, regardless of an individual's ability, skills and aptitudes.[17] Once again, the existence of career myths may explain differences in plans for pre-registration training.

In addition, undertaking analysis of pre-registration plans at an institutional level will provide us with some insight into the effects of possible undergraduate socialisation of respondents into particular career paths.

Finally, including this question provides us with baseline data on intentions that can then be compared with the pre-registration post obtained in the next survey.

Figure 8 below gives the pre-registration training intentions of the sample.

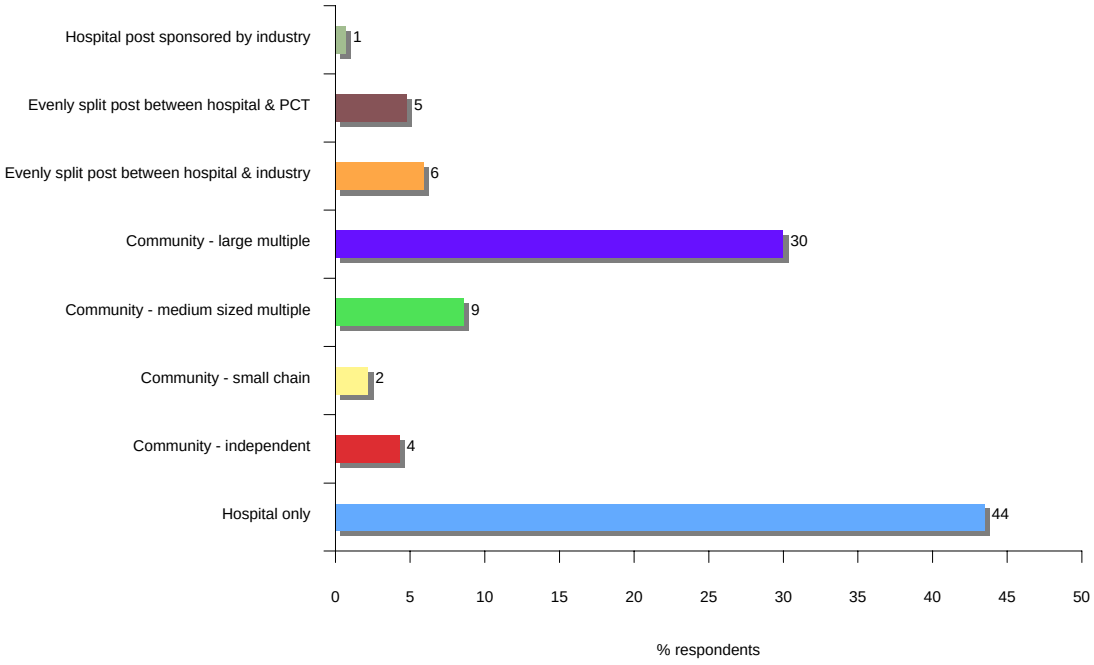

Figure 8: Pre-registration training plans by branch of the profession

The results in Figure 8 show that approximately equal proportions of respondents wanted to do their pre-registration training in the hospital and

community sectors (43.5% and 45.1% respectively). However, data from the RPSGB indicate that proportionally more posts exist in community pharmacy, indicating that not all respondents are likely to secure their first choice of pre-registration training post.

Looking at plans for pre-registration training in relation to the gender of respondents, significantly more female (46.1%) than male (36.7%) respondents wanted to do their pre-registration training in hospital pharmacy, but significantly more male (8.8%) than female (4.8%) wanted to do their training in a post that was evenly split between hospital and industry.

When pre-registration plans were analysed in relation to collapsed ethnic group, we found that 48.5% of white respondents wanted to undergo their training in hospital, compared with 38.4% of non-whites; on the other hand, 33.4% of non-whites wanted to do their training in a large multiple community pharmacy compared with 26.3% of white respondents. These differences were statistically significant. Furthermore, we found that 41.1% of white males, and 34.0% of non-white males, wanted to do their pre-registration training in a hospital, but 24.0% of white males, and 32.7% of non-white males, wanted to do their pre-registration training in a large multiple community pharmacy. Amongst female respondents a similar trend was observed, with 50.8% of white females and 40.0% of non-white females wanting to do their pre-registration training in a hospital pharmacy but 27.0% of white females and 33.7% of non-white females wanting to do their pre-registration training in a large multiple community pharmacy. All of these differences in pre-registration plans were statistically significant, although the p value was smaller amongst female respondents.

At an institutional level, we found that more than half of all respondents at five universities wanted to do their pre-registration training in hospital pharmacy. These respondents were attending: Nottingham University (where 63.6% of respondents wanted to do their pre-registration training in hospital); Cardiff (60.7%); Manchester (58.5%); Brighton (52.7%); and Bath (52.2%). At Brighton and Manchester proportionally more male than female students wanted to do their pre-registration training in hospital, while this trend was reversed at the other three institutions. In addition to respondents studying at these five universities, hospital pharmacy was the most frequently chosen sector for pre-registration training for those studying at Portsmouth (where 49.5% of respondents wanted to do their pre-registration training in hospital); John Moores (49.4%); and King's College (42.3%). The second highest frequencies amongst students at all eight of these schools were for undertaking pre-registration training in a large multiple community pharmacy.

At the remaining six schools of pharmacy – where hospital pharmacy was not the sector where the largest proportion of students wanted to undertake pre-registration training – the largest proportion of respondents wanted to do their pre-registration training in a large multiple community pharmacy, although in all these schools hospital pharmacy was the type of post ranked second in terms of proportions of respondents' preferences. Results for respondents studying at these six schools were: 62.2% of respondents at Sunderland,

41.7% at De Montfort, 36.3% at Strathclyde, 35.2% at Bradford, and 28.6% at Robert Gordon wanted to do their pre-registration training in a large multiple community pharmacy.

These results show that two types of pre-registration posts were consistently the most popular choices amongst our respondents across all schools of pharmacy, although when the sample as a whole was analysed significant differences were found in terms of the gender and ethnicity of respondents and their preferences for their pre-registration training post. It is possible that these differences may arise because respondents are adhering to particular career myths or are being influenced by the existence of gender and ethnic niches in the profession.

Thinking about the relationship between school of pharmacy and pre-registration preferences, the results are complex. For example, if ethnicity and gender are conceptualised as having an effect on choice of pre-registration training post, then we would expect to find that at those schools where there was a larger than average proportion of male and non-white students there would also be a larger than average proportion of respondents wanting to train in a large multiple community pharmacy. While this is true of non-white male respondents studying at Bradford and De Montfort, it is not true of non-white male respondents at Aston, amongst who, proportionally, more wanted to do their training in a hospital pharmacy. A possible explanation of these findings is that gender and ethnicity do not strongly determine preferences for pre-registration training posts, and that a range of other factors account for these preferences amongst our respondents – for example, elements of the undergraduate curriculum such as clinical pharmacy practice teaching in hospitals may have had an effect on respondents' preferences for undertaking their pre-registration training in the hospital sector.[27,28]

Explanations of the trends found in the data may become evident once factors influencing their choice of pre-registration training post have been analysed in 6.46.

6.44 Ease of securing first choice pre-registration post

A question about respondents' expectations of securing their first choice of pre-registration post was included to provide data about whether some groups of respondents were more confident about obtaining a preferred training post.

Respondents were asked to distinguish between whether they expected it to be very difficult, difficult, easy, or very easy. Analysis of the data showed that 25.1% of respondents anticipated that it would be very difficult; 60.5% difficult; 12.1% easy; and 2.3% very easy. No significant differences between male and female respondents were found – and when the variable was collapsed into a dichotomous variable (of easy and difficult) it was found that 85.1% of male respondents and 85.7% of female respondents expected that it would be difficult to obtain their first choice of pre-registration training post.

When this variable was examined in relation to the ethnicity of respondents, no significant differences were found between white and non-white respondents (with 86.2% and 85.0% respectively expecting it to be difficult to secure their first choice of pre-registration training post). However, when ethnicity was explored in relation to all ethnic groups, it was found that 92.0% of white Irish, 91.3% of Chinese, but only 65.0% of black African respondents expected it to be difficult to obtain their first choice post. These statistically significant differences were not replicated exactly amongst both male and female respondents. While 92.3% of Chinese males, and 90.9% of Chinese females, expected it to be difficult to secure their first choice of post (the largest ethnic group, proportionally, of male respondents) 95.8% of white Irish females expected it to be difficult to obtain their first choice of pre-registration post (compared with 82.1% of white Irish males).

When compared with the type of pre-registration post respondents hoped to secure, significant differences were found, with some types of posts expected to be relatively less difficult to secure than others. A post that was evenly split between hospital and industry was expected to be difficult to secure by 91.9% of those for whom it was their first choice of training post – this compares with 71.7% of those whose preference was to train in an independent community pharmacy and 76.2% of those whose preference was to train in a small chain of community pharmacy.

6.45 Location of training post

The geographical location respondents hoped to complete their training in was also explored in Early Choices. The purpose of this question was to try to establish whether some groups of students were more likely to want to stay near their place of study or to go elsewhere. Since geographical mobility is essential if workforce shortages are to be resolved in some areas, such as the south west of England, responses to this question will help us to construct a picture of the relative preferences of different groups to moving.

Frequencies for preferred location show that London was the most popular, with 18.7% of respondents selecting it, followed by Scotland (the first choice for 14.5% of respondents), the north west (13.5%), the west midlands (11.0%), the south east (8.7%), the east midlands (6.5%), Wales (6.1%), the south west (5.7%), Yorkshire and Humberside (5.7%), other (3.2%), Northern Ireland (3.0%), the north east (2.7%), and the east (0.6%). Looking at location in terms of country of school of pharmacy and preferred location for pre-registration training, it can be seen that 80.3% of those respondents studying in Scotland wanted to stay in Scotland for their pre-registration post, 52.9% of those studying in Wales wanted to remain in Wales for their pre-registration training, and that within those who were studying in England, the five most popular locations for pre-registration training were: London (21.8%), the north west (17.3%), the west midlands (13.7%), the south east (10.8%), and the east midlands (8.1%). It is also interesting to note that 6.7% of students who were studying in Scotland wanted to do their pre-registration training in Northern Ireland, and that 17.1% of respondents studying in Wales wanted to do their pre-registration training in the south west.

When analysed at the level of each individual school of pharmacy, it appears that, generally, in each school the largest proportion of respondents wanted to stay in the same region that they had studied in – the one exception being respondents from Portsmouth, the majority of who wanted to train in London (a distance of just over 80 miles from Portsmouth school of pharmacy). Table 15, overleaf, shows the location that was the most popular, proportionally, for pre-registration training by school of pharmacy.

It is also of note that the second largest proportion of respondents at Aston (14.0%), Bath (19.8%), Brighton (29.7%), Manchester (10.7%), Nottingham (21.9%), and Robert Gordon (14.1%) universities wanted to complete their training in London. A further 9.8% of respondents at Robert Gordon, 9.6% at John Moores, 8.1% at Brighton, 5.1% at Sunderland, 3.5% at Strathclyde, 2.2% at Bath, 1.2% at Manchester, and 1.1% at De Montfort expressed a preference to do their pre-registration training in Northern Ireland.

Table 15: Preferred location for pre-registration training by institution

	Aston	Bath	Bradford	Brighton	De Montfort	John Moores	Kings College	Manchester	Nottingham	Portsmouth	Sunderland	Robert Gordon	Strathclyde	Cardiff
Region	west midlands	south west	York/shire & Humberside	south east	east midlands	north west	London	north west	east midlands	London	north east	Scotland	Scotland	Wales
% preferred	64.0	29.7	38.2	37.8	32.6	62.7	60.4	63.1	28.8	46.4	38.5	68.5	93.0	52.9

Looking in more detail at the gender and ethnicity of respondents and preferred location we found some interesting differences. Starting with Aston, it can be seen that 53.3% of male and 68.1% of female respondents wanted to remain in the west midlands, a difference that was not statistically significant. However, when preferred location was explored in terms of ethnicity, we found that while similar proportions of white (60.9%) and non-white (62.0%) respondents wanted to train in the west midlands, 0.0% of white respondents wanted to move to London, compared with 19.7% of non-white respondents, and 13.0% of white respondents hoped to train in Wales compared with 0.0% of non-white respondents. These findings were statistically significant.

Gender differences between respondents at Bath, once again, were not significant, although proportionally more female (30.1%) than male (27.8%) respondents wanted to train in the south west. Ethnicity was not statistically significant either, although we found that while 33.8% of white respondents wanted to stay in the south west, only 15.8% of non-whites did – and this pattern was reversed when looking at those who preferred to train in London, where we found that 14.1% of white and 36.8% of non-white respondents wanted to move there to complete their training.

Proportionally more male respondents (45.5%) than female respondents (34.8%) at Bradford hoped to do their pre-registration training in Yorkshire and Humberside, as did more non-white (42.5%) than white (34.6%) respondents, but these differences were not statistically significant. A similar trend was also observed at Brighton, where 47.1% of male and 35.1% of female respondents hoped to do their training in the south east, and 37.2% of white and 39.3% of non-white wanted to remain in the south east for their pre-registration training, differences which again were not statistically significant.

Respondents at De Montfort demonstrated some differences in terms of their preferred geographical location, with 20.0% of males wanting to train in the east midlands, 30.0% in the west midlands, and 12.5% in London. This compares with 41.8% of females who wanted to train in the east midlands, 16.4% in the west midlands, and 25.5% in London. When ethnicity was explored, we found that 42.9% of white respondents wanted to train in the east midlands, 14.3% in the west midlands and 0.0% in London. For non-white respondents the results were: 31.8% wanted to train in the east midlands, 23.5% in the west midlands, and 20.2% in London. These gender and ethnic differences were significant.

Proportionally more females (64.3%) than males (59.3%) and more non-whites (71.4%) than whites (60.0%) studying at John Moores wanted to complete their training in the north west, but these differences were not significant. At King's College, proportionally more male (87.5%) than female (55.0%) respondents wanted to train in London – and 25.0% of females compared with 0.0% of males wanted to train in the south east. Furthermore, proportionally more non-white (67.6%) than white (30.0%) respondents wanted to remain in London to undertake their pre-registration training. Once again, these differences were not significant.

Proportionally more males (71.4%) than females (60.3%) and more whites (67.6%) than non-whites (62.2%) studying at Manchester wanted to complete their training in the north west, but these differences were not significant. At Nottingham, 17.6% of males wanted to train in the north west, 17.6% in the east midlands, and 11.8% in London. This compares with 7.1% of females who wanted to train in the north west, 32.1% in the east midlands, and 25.0% in London. However, when ethnicity was explored, the differences between white and non-white respondents were proportionally smaller than those observed between male and female respondents, with 24.4% of whites wanting to train in the east midlands and 15.6% in London compared with 37.5% of non-whites who wanted to train in the east midlands and 33.3% in London.

Significant differences between male and female and white and non-white respondents' preferences for the location of their pre-registration training were found among students studying at Portsmouth: while 35.7% of male respondents wanted to train in London and a further 21.4% in the south east, for female respondents the results show that 50.7% wanted to train in London and 24.7% in the south east. What's more, proportionally more non-white (59.2%) than white (8.0%) respondents wanted to train in London, while proportionally more white (44.0%) than non-white (16.9%) respondents wanted to train in the south east.

We also found that proportionally more females (39.1%) than males (37.5%) and more whites (44.4%) than non-whites (23.5%) studying at Sunderland wanted to complete their training in the north east, but these differences were not significant.

When respondents studying in Wales were analysed, we found that while more females, proportionally, than males wanted to remain in Wales for their pre-registration training (with 54.5% and 46.7% respectively), more male respondents (26.7%) than female respondents (14.5%) wanted to train in the south west. While these differences were not statistically significant, differences between white and non-white respondents' preferences for the location of their pre-registration were, with 57.4% of white respondents wanting to train in Wales and 18.5% in the south west, compared with 35.7% of non-white respondents who wanted to train in Wales and 28.6% in London.

Finally, looking at the two Scottish schools of pharmacy, we found that the majority of respondents wanted to remain in Scotland while undertaking their pre-registration training. Proportionally more females (68.9%) than males (67.7%) at Robert Gordon wanted to stay in Scotland, and proportionally more white (67.7%) than non-white (54.5%) respondents also wanted to remain in Scotland, but these differences were not statistically significant. Among respondents studying at Strathclyde, 95.5% of males and 92.3% of females wanted to train in Scotland – this proportion rises to 100% of non-white respondents (compared with 93.7% of white respondents).

Summarising these findings, it appears that many respondents wanted to remain in the same region as they had studied in – and that those respondents who intended to move often hoped to complete their pre-registration training in London.

6.46 Factors influencing pre-registration training post

The purpose of including this particular question on factors influencing respondents' choices for their pre-registration post was to provide some explanations of the trends found in the data in 6.43. In 6.43 we showed that two types of pre-registration posts were consistently the most popular choices amongst respondents from all schools of pharmacy, although differences were found in terms of the gender and ethnicity of respondents and their preferences for their pre-registration training post.

Respondents were asked to evaluate the strength of influence – from 'strong', 'partial', to 'no influence', and 'not relevant' – sixteen items had been when they were thinking about the kind of pre-registration training post they wanted to have. Analysis of the data showed that while all sixteen factors were evaluated as influencing respondents' choice of pre-registration post, the relative frequency with which they were evaluated as strongly influencing the decision ranged from only 10.6% of respondents who said they were strongly influenced by a part of the course other than the clinical practice course, to 60.5% who were strongly influenced by the career and promotion prospects associated with a particular post. Figure 9 below shows the factors strongly influencing the largest proportions of respondents.

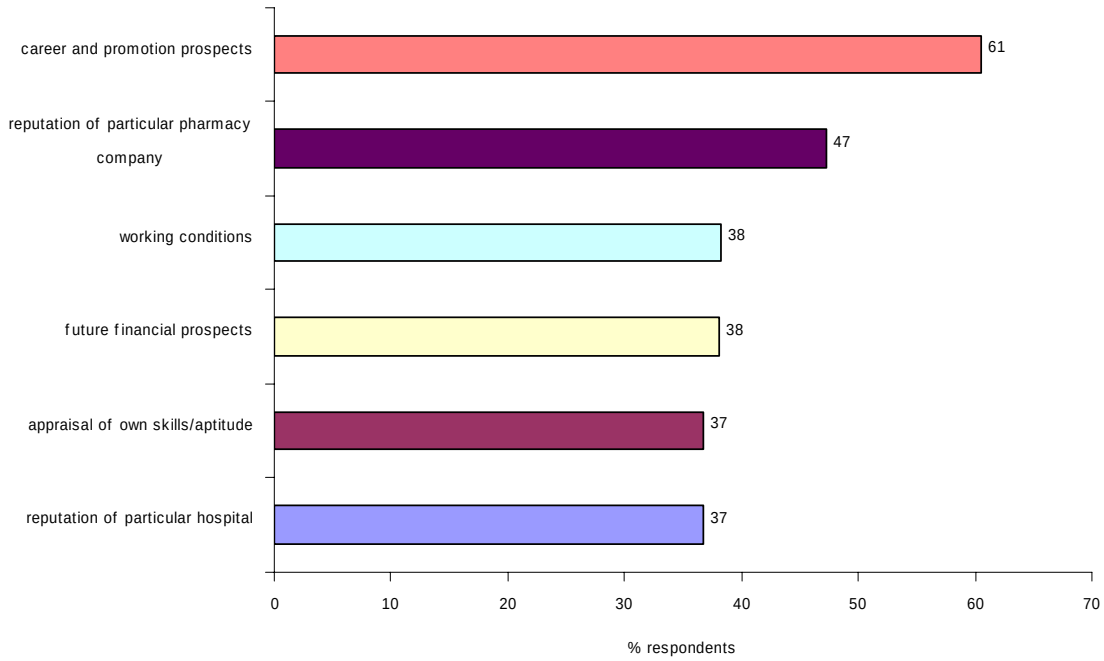

Figure 9: Factors influencing choice of pre-registration training post

As Figure 9 suggests, once again respondents' choices were influenced by both extrinsic and intrinsic factors, but – once again – the balance of factors was towards extrinsic motivations. Table 16 (below) shows the results for all sixteen factors.

Table 16: Factors influencing choice of pre-registration training post

Factor	Strongly influenced %
Employer recruitment presentation	31.9
Domestic/personal circumstances	35.4
Working conditions	38.2
Salary on graduation	33.1
Appraisal of own skills/aptitude	36.8
Career and promotion prospects	60.5
Reputation of particular hospital	36.7
Reputation of particular pharmacy company	47.3
Clinical practice course at university	25.8
Another part of course	10.6
Inclinations before pharmacy school	14.8
Advice from others	27.9
Future financial prospects	38.1
Particular tutor or lecturer	10.7
Other	13.3

Three factors showed significant differences between male and female respondents. Domestic/personal circumstances strongly influenced proportionally more female (36.5%) than male (32.5%) respondents – but, conversely, were evaluated as having no influence on 25.2% of female compared with 20.3% of male respondents. The clinical practice course at university also strongly influenced proportionally more female (27.2%) than male (22.2%) respondents, a finding which may be attributed to the fact that (as reported in 6.43) significantly more females in the sample hoped to train in hospital pharmacy and so would be more likely to be influenced by that part of the curriculum designed to expose students to hospital pharmacy.[27,28] Finally, a particular tutor or lecturer strongly influenced more male (12.6%) than female (10.0%) respondents, suggesting that male respondents were more positively influenced by academic staff who were, perhaps, acting as role models.

Eleven factors, significantly strongly influenced larger proportions of non-white than white respondents. These are given in Table 17 below.

Table 17: Factors influencing choice of pre-registration training post **via collapsed ethnic group**

Factor	White %	Non-white %	Total %
Employer recruitment presentation	25.0	39.5	31.8
Hours of work	9.7	24.3	16.5
Working conditions	32.3	45.3	38.4
Salary on graduation	26.3	39.8	32.7
Appraisal of own skills/aptitude	27.8	47.1	36.9
Career and promotion prospects	58.1	63.5	60.6
Reputation of particular hospital	32.2	41.9	36.7
Reputation of particular pharmacy company	41.0	55.0	47.6
Another part of the course	7.0	13.8	10.2
Future financial prospects	31.0	45.2	37.7
Particular tutor or lecturer	8.1	13.8	10.8

Controlling for gender within collapsed ethnic group, employer recruitment presentation, hours of work, working conditions, salary on graduation, appraisal of one's own skills/aptitude, reputation of a particular hospital, reputation of a particular pharmacy company, clinical practice course at university, another part of the course, future financial prospects, and particular tutor or lecturer all strongly influenced significantly larger proportions of non-white than white females. With the exception of working conditions, reputation of particular hospital, another part of the course, and particular tutor or lecturer, these factors also strongly influenced significantly more non-white males than white males.

Exploring ethnicity in more detail three factors were statistically significant: reputation of a particular pharmacy company (strongly influencing the choice of 63.2% of Bangladeshi respondents, 63.0% of Chinese, 60.3% of Indian and 39.1% of white British respondents); working conditions (which strongly influenced 58.7% of Chinese, 41.7% of Indian, and 29.7% of white British respondents); and future financial prospects (which strongly influenced 57.9% of Bangladeshi, 52.5% of black African, 46.3% of Indian, 41.3% of Chinese and 30.4% of white British respondents).

Contextualising the results of 6.43 now in terms of factors influencing choice of pre-registration training post, seven factors were found to be significantly

related. Hours of work strongly influenced 21.7% of those who wanted to do their pre-registration training in an independent community pharmacy, compared with an average of 16.5% and with 15.8% of those who wanted to do their pre-registration training in a large multiple community pharmacy. Salary on graduation strongly influenced only 23.5% of those who hoped to do their pre-registration training in hospital pharmacy, compared with 40.6% of those who hoped to train in a large multiple community pharmacy and 42.6% of those who wanted a post that was evenly split between hospital and industry.

Career and promotion prospects strongly influenced 72.5% of those who wanted to do their training in a post that was evenly split between hospital and PCT. However, the interesting differences in relation to this factor were between the different types of community post, where 65.0% of those who wanted a post in a large multiple were strongly influenced by career and promotion prospects compared with 47.7% of those wanting a post in an independent and 43.5% in a small chain community pharmacy. Differences between types of community post were also found for the factor 'future financial prospects'. Here 49.7% of those who wanted a post in a large multiple were strongly influenced by future financial prospects, compared with 36.4% of those wanting a post in an independent and 34.8% in a small chain community pharmacy. A significant 71.4% of those who wanted to train in an industry-sponsored hospital post were strongly influenced by this factor.

Reputation of both a particular hospital and pharmacy company were significantly related to pre-registration training plans. While 50.4% of those who wanted to do their training in a hospital were strongly influenced by the reputation of a hospital (compared with an average of 36.3%) 65.1% of those who wanted to train with a large multiple community pharmacy were strongly influenced by the reputation of a particular pharmacy company – compared with 48.3% of those who wanted to train with a medium sized multiple, 34.8% a small chain and 37.8% with an independent community pharmacy.

The undergraduate curriculum was also significantly related to respondents' sector preferences for their pre-registration training. As reported by other studies[27,28] many Early Choices respondents found that the clinical practice course at university influenced their choice of pre-registration training post, with 36.7% of those who wanted to train in a hospital reporting being strongly influenced by this aspect of the MPharm course, compared with 30.7% of those who wanted to train in with a large multiple who said it was no influence at all. Another part of the course (which was not specified in the questionnaire) strongly influenced 28.3% of those who wanted to train in a post that was evenly split between hospital and industry compared with an average of 10.6%, and 8.7% of those who wanted to train with a large multiple.

These results give some insight into the factors accounting for respondents' preferences for their pre-registration post, and suggest that a combination of extrinsic motivators such as future financial rewards and undergraduate socialization have affected our respondents' choices. It is possible that these

factors, in combination with gender and ethnicity, account for many of the differences in intentions reported in 6.43.

6.5 Early career intentions

This section in the questionnaire was designed to explore respondents' early career intentions, as well as their conceptualisation – and understanding of – a career in pharmacy. In addition to asking respondents to consider what they would like to be doing – work wise – in ten years time, they were also asked to think about the general pattern of work they expected to follow and whether they expected to have any career breaks during their career. Data about intentions and expectations are central to the longitudinal design of this study, since these data can be compared with practice and experiences at later points in the study.

With a question exploring respondents' current career choices we can also begin to understand the possible ways that respondents have made intentional choices about their pre-registration training post – here, if intentional and planned choices have been made, we would expect there to be a link between the sector identified in 6.43 as being preferred for a respondent's pre-registration training post and the sector identified as a respondent's intended future career.

Attitudes to being a pharmacist were also explored in this section, with the aim of exploring how respondents' conceptualised pharmacy as a career and their views on what working as a pharmacist may consist of. The attitude data provides us with further insight into respondents' career commitment and motivation to work in the profession.[12,13]

While this section explores early career intentions and career commitment, it also presents an opportunity to revisit the group of respondents first described in 6.24, when we discussed those respondents who appeared to have drifted into pharmacy and who were not strongly committed to studying or practicing pharmacy.

6.51 Current career choices

The first question in this section on early career intentions asked respondents about what career they hoped to have in ten years time. The rationale for including this question was for it to help establish the sort of career respondents wanted at the time of completing Early Choices. Since this question also asked respondents to describe how certain they were about their choices, this question also collected data about levels of career decidedness. Here we hypothesised that those who were not strongly committed to pharmacy as a profession would be more likely to want to work outside pharmacy, to want to retrain to do something else or to be undecided about their future career.

Once again, this data about intentions is invaluable for comparing with later events, and for determining whether original expectations have been met or not.

For this question, respondents were asked to distinguish between those career choices that they felt very certain about, those that they were quite certain about, those they were not very certain about, and those that they were very uncertain about. Table 18 overleaf shows the proportions of respondents who were very certain about each of the fourteen possible career choices.

The analysis that follows is focussed on the following choices: community – own business; community – working for a large multiple; hospital; primary care; and practice pharmacy abroad, since these choices were most frequently selected as being those respondents were very certain about, excluding ‘undecided’ which was not found to be significantly related to either the gender or ethnicity of the sample.

Table 18: Respondents' career choices for 10 years time

Career choice	Very certain %
Outside pharmacy	3.0
Community – own business	12.7
Community – working for a small chain (2-4 stores)	4.3
Community – working for a medium multiple (5-25 stores)	5.2
Community – working for a large multiple (more than 25 stores)	14.1
Primary care	8.7
Industry	6.1
Academia	4.1
Other pharmacy	2.6
Hospital	22.8
Practice pharmacy abroad	16.3
Undecided	12.0
Retrain to do something else	3.5
Other	8.1

Analysis of current career choices for ten years time was simplified to enable more straightforward comparisons between groups of respondents, with the variable recoded in either 'certain' or 'uncertain' about a career choice. Table 19 (over) shows respondents who were certain of the following intended career paths: community – own business; community – working for a large multiple; hospital; primary care; and practice pharmacy abroad.

Table 19: Respondents' career choices for 10 years time

Career choice	Certain %
Community – own business	32.7
Community – working for a large multiple (more than 25 stores)	50.5
Primary care	37.3
Hospital	60.3
Practice pharmacy abroad	43.0

Since respondents could tick more than one possible career choice for their future work, the results in Table 19 show that perhaps many respondents were hoping to have a portfolio career, or that they were undecided about their future career. Figure 10 (below) shows the gender differences between respondents' career choices. Within two choices – community (own business) and practice abroad – male respondents were proportionally more certain about working in than female respondents. However, only with the entrepreneurial career intentions were the gender differences statistically significant.

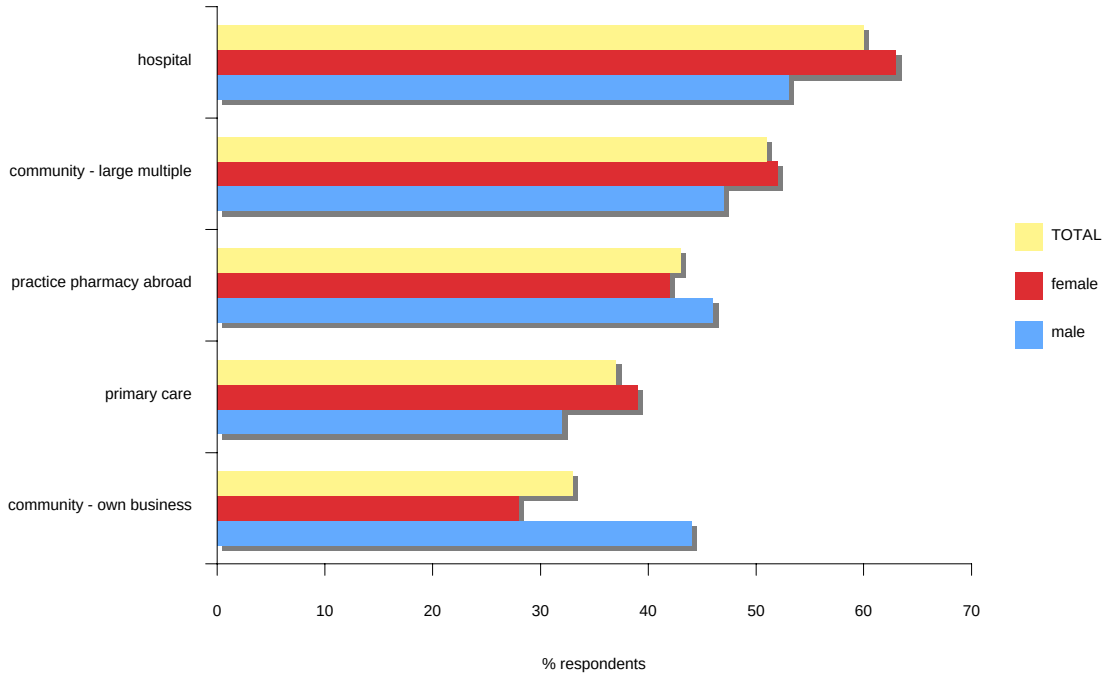

Figure 10: Career choices in ten years by gender

Within the career choice of working for a large multiple community pharmacy, we found that proportionally more female (52.1%) than male (46.5%) respondents were certain that they wanted to work in a large multiple community pharmacy, although this difference was not statistically significant. Significant differences were found within those who wanted to work in primary care (32.2% male and 39.4% female) and within hospital pharmacy (where 53.3% of male respondents were certain compared with 63.0% of female respondents).

When career intentions were explored in relation to ethnicity, non-white respondents were proportionally more certain about all five career choices than white respondents. Within the choices of hospital pharmacy, practice abroad and primary care there were not statistically significant differences in terms of the ethnicity of respondents (with 57.8% white and 63.6% non-white respondents certain they wanted a career in hospital pharmacy, 44.0% of non whites and 41.7% of white respondents intending to work abroad, and 40.1% of non-white compared with 35.4% of white respondents intending to work in primary care pharmacy in ten years time), although within the choices of working for a large multiple community pharmacy and owning a community pharmacy there were statistically significant differences (with 43.9% white and 58.3% non-white respondents wanting a career working for a large community pharmacy, and 25.8% white and 39.4% non-white respondents intending to have an entrepreneurial career in community pharmacy). Figure 11 shows these differences between white and non-white respondents.

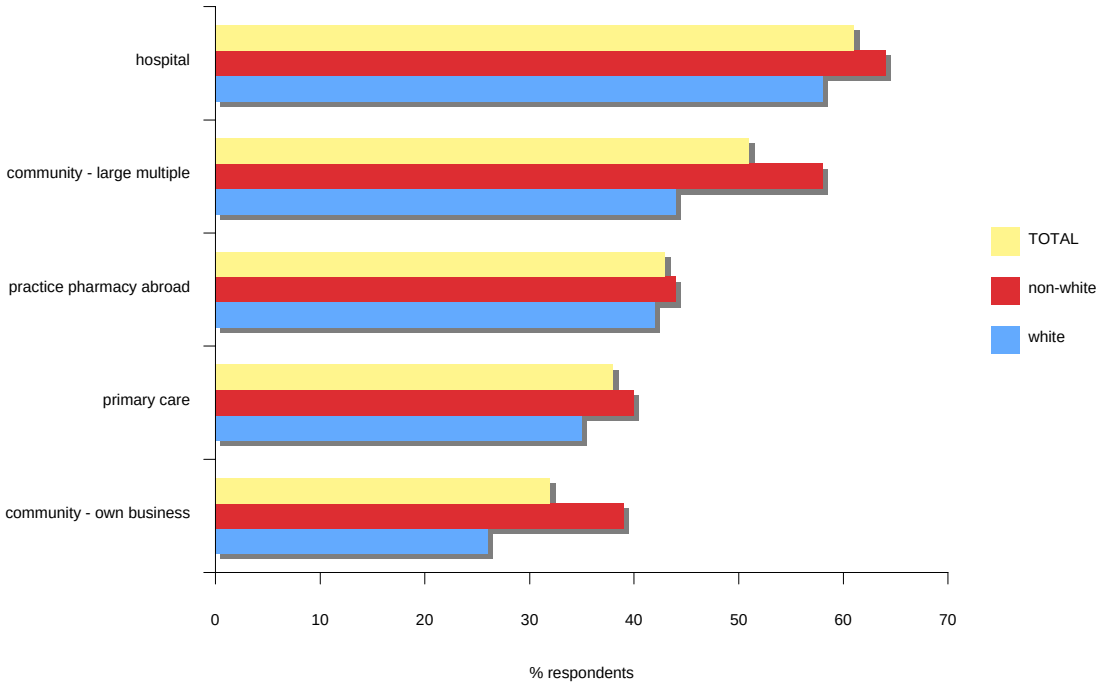

Figure 11: Career choices in ten years by collapsed ethnic group

This trend of non-white respondents being proportionally more certain about their career decisions was also found when ethnicity was explored controlling for gender, with the exception of those respondents who wanted to work abroad, within which career choice we found that 47.7% white male and

42.9% non-white male respondents were certain that they wanted to practice pharmacy abroad in the future. This difference was not statistically significant. Other differences that were not statistically significant were: male respondents who were certain they wanted to work in hospital pharmacy (52.2% white males and 55.5% non-white males); and primary care pharmacy.

At individual school level, no significant differences were found between a school and respondents who were certain that they wanted to work in the hospital sector of the profession. However, 7.1% of respondents who were certain they wanted a career in hospital pharmacy were respondents from Brighton (yet Brighton students comprised only 6.5% of the sample) and 7.9% were students from Nottingham (who constituted 6.8% of the sample). Of those who were certain they wanted to practice pharmacy abroad 10.5% were respondents studying at Robert Gordon University (who comprised 8.5% of the total sample), and a further 10.5% were respondents from De Montfort (who represented 7.6% of the sample). Conversely, respondents from Bradford were under-represented amongst those who intended to practice abroad (5.2% of those certain they wanted to practice abroad were students from Bradford, yet they represented 6.6% of the sample). These differences were also not significant. Being certain of wanting a career in primary care pharmacy was also not significantly related to the school of pharmacy of a respondent.

Of those who were certain that they intended to have a career in community pharmacy working for a large multiple, 12.0% were from Aston, 10.4% from De Montfort, and 8.3% from Strathclyde. This finding was statistically significant. Statistically significant differences were also found between a respondent's school of pharmacy and their intentions for an entrepreneurial career. Here, we found that 16.1% of those who were certain that they wanted their own business were from Robert Gordon, 11.5% from De Montfort, and 10.6% from Portsmouth. Further analysis of entrepreneurialism in the future pharmacy workforce can be found in the bulletin included with this report as appendix 4.

When career intentions for ten year's time were compared with career intentions on entry to school of pharmacy, the two were found to be significantly related. Of those who were certain that they wanted a career in hospital pharmacy 93.6% had identified hospital pharmacy as their intended career path on entry to university; and of those who were certain they wanted a career working for a large multiple 60.1% had intended to enter community pharmacy when they began their pharmacy degree. This trend was also found amongst those who were certain they wanted a career in primary care pharmacy, 88.9% of whom had identified primary care pharmacy as their intended career when they entered their school of pharmacy. In addition, amongst those who were certain that they wanted an entrepreneurial career 39.8% had identified community pharmacy as their intended career when they began their degree (compared with only 17.5% who had no clear idea and 0.0% who wanted a career outside pharmacy when they entered pharmacy school). These results suggest that early career choices (those made prior to

beginning to study pharmacy) were reinforced during the course of studying for an MPharm for large proportions of respondents.

Finally, career intentions were found to be significantly related to pre-registration intentions. Of those who were certain that they wanted a career in hospital pharmacy, 63.0% hoped to do their pre-registration training in hospital pharmacy (and only 16.5% to train with a large multiple community pharmacy). Of those who intended to practice pharmacy abroad, 47.9% hoped to do their pre-registration training in hospital pharmacy and 24.4% with a large multiple community pharmacy. 42.8% of those with intentions to work in primary care pharmacy wanted to do their pre-registration in a hospital pharmacy (and 30.8% in a large multiple community pharmacy). Conversely, 35.8% of those who intended to be community pharmacy entrepreneurs hoped to do their pre-registration training with a large multiple community pharmacy and 29.8% in hospital pharmacy. Finally, 50.2% of those respondents who were certain that they wanted a career working in a large multiple community pharmacy hoped to do their pre-registration training with a large multiple (and 29.3% in a hospital pharmacy).

These results suggest that many respondents may have chosen their pre-registration training post in the light of their longer-term career choices. The relationships between schools of pharmacy and respondents' career intentions may, to some extent, be related to the ethnicity – we know, for example, that a large proportion of respondents at De Montfort and Aston were non-white, and we have found in this section that non-white respondents were proportionally more certain than white respondents that they wanted a career working for a large multiple. However, since respondents at Strathclyde were also over-represented amongst those who were certain that they wanted a career with a large multiple community pharmacy – and 91.8% of respondents from Strathclyde were white – it appears that ethnicity alone does not determine career choices.

6.52 General work pattern intentions

In order to provide some indication of the contribution of the cohort to the future pharmacy workforce, a question was included in Early Choices asking respondents to select from a list of ten alternatives the general pattern of work they expected to have over the course of their career. The purpose of including this question was to help us to identify groups of respondents who desired to work part-time, and the degree to which they were considering a work/life balance before beginning work. Once again, these intentions for practice can be compared with actual practice at later points in time.

The frequencies for the expected pattern of work of respondents were as follows: 14.9% expected to work full-time until retirement; 10.6% to work full-time but aimed to retire early; 1.9% expected to work full-time but to then stop working altogether after starting a family; 22.6% to work full-time but to have breaks for statutory maternity leave; 5.3% expected to work full-time but to have other career breaks; 16.7% to work predominantly full-time but to have periods of part-time working; 18.0% expected to work full-time early on and then to work part-time later on; 1.3% expected to always work part-time; 6.9% didn't know what pattern of work they expected to work; and 1.9% said that they expected to follow an 'other' pattern of work.

When the five most frequently chosen anticipated work patterns were analysed in relation to the gender of respondents, significant differences were found. The results are given in Figure12 below.

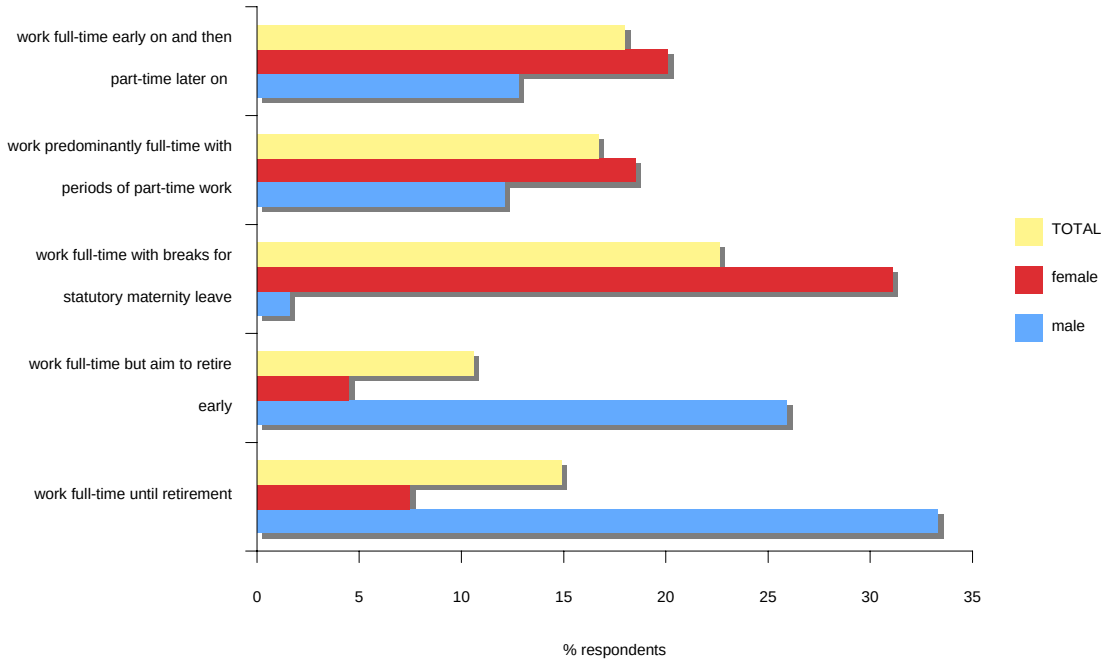

Figure 12: Expected patterns of work by gender

Figure 12 demonstrates quite clearly that while 33.3% of male respondents expect to work full-time until retirement – and a further 25.9% to work full-time but aim to retire early – large proportions of female respondents expect to

interrupt their pattern of work to take statutory maternity leave (31.1%), or to work full-time with periods of working part-time (18.5%), or to work full-time early on but to work part-time later (20.1%).

Statistically significant differences were also found in the expected work patterns of white and non-white respondents. These differences are shown in Figure 13 below.

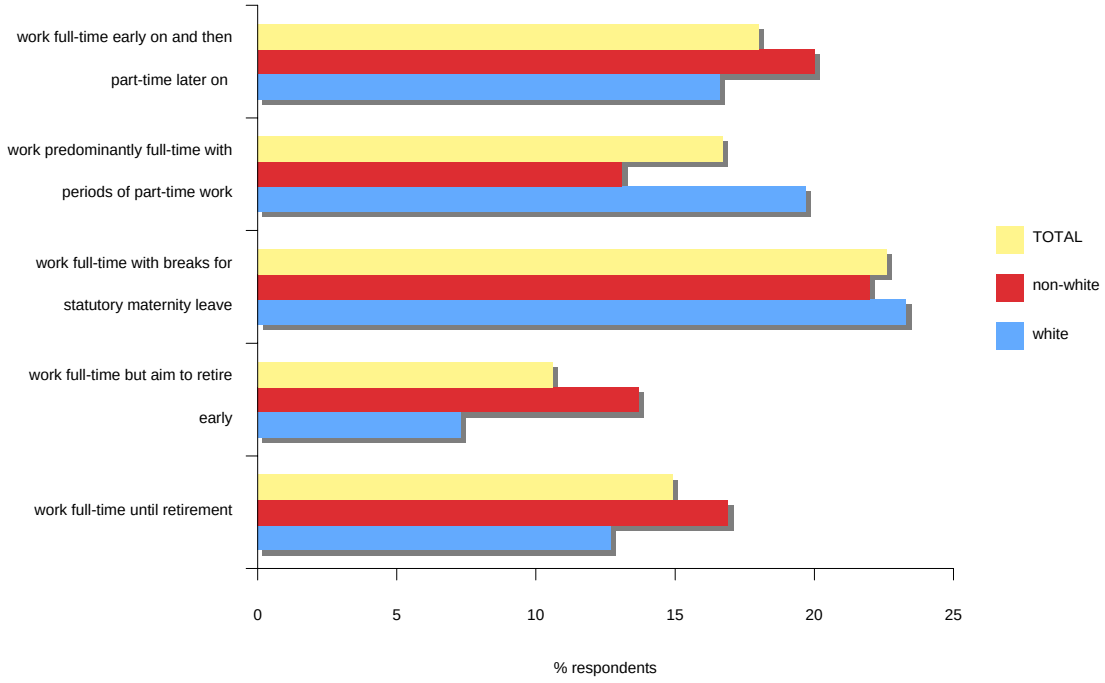

Figure 13: expected patterns of work by collapsed ethnic group

Non-white respondents were, proportionally, more likely to anticipate working full-time until retirement (16.9%) and to work full-time but to aim to retire early (13.7%) than white respondents, 12.7% of whom expected to work full-time until retirement and 7.3% to work full-time but retire early. In addition, white respondents were more likely to anticipate taking a break from work for statutory maternity leave (23.3% compared with 22.0% of non-whites) and to work predominantly full-time with periods of part-time work (19.7% compared with 13.1% of non-white respondents).

Proportionally more non-white males (35.2%) than white males (30.0%) expected to work full-time until retirement: and this trend was also found amongst female respondents, with 7.1% of white females and 8.0% of non-white females expecting to work full-time until retirement. Figure 14 (overleaf) shows these statistically significant trends in expected work patterns for white and non-white males and white and non-white females.

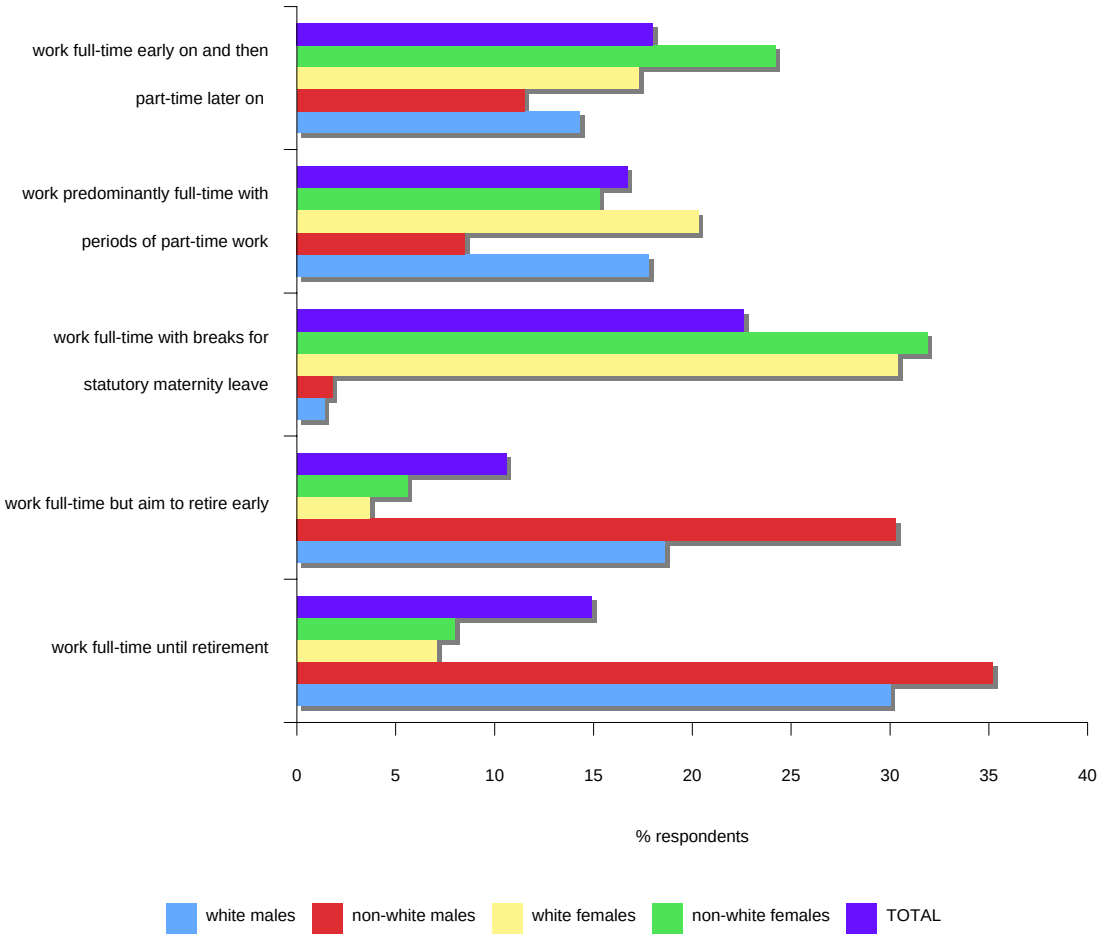

Figure 14: Expected work patterns by gender and collapsed ethnicity

Figure 14 shows that, proportionally, non-white females constituted the largest group who expected to work full-time early on and then part-time later on and to expect to work full-time with breaks for statutory maternity leave, while white females were, proportionally, the largest group of respondents who expected to work predominantly full-time with periods of part-time work.

Contextualising these anticipated work patterns in terms of intended career in ten years time (discussed in 6.41 above) it can be seen that 20.2% of those respondents who were certain they wanted to own a pharmacy business expected to work full-time until retirement, compared with 15.7% who were certain they wanted a career in primary care pharmacy, 15.5% who were certain they wanted to work in hospital pharmacy, 13.3% who were certain they wanted a career with a large multiple, and 13.2% who were certain they wanted to practice pharmacy abroad. Table 20 shows expected work patterns of respondents in relation to intended career choices for ten years time.

Table 20: Respondents' expected pattern of work by career choice for 10 years time

	Work full-time until retirement	Work full-time but ain to retire early	Work full-time with breaks for statutory maternity leave	Work full-time with periods of part-time work	Work full-time early on and part-time later on
Career choice					
Hospital	15.5	8.3	25.1	15.9	17.5
Community – large multiple	13.3	9.5	25.1	18.2	19.8
Practice pharmacy abroad	13.2	14.2	20.0	15.9	17.1
Primary care	15.7	9.8	24.6	14.6	17.7
Community – own business	20.2	18.6	16.4	12.9	17.4
TOTAL	14.9	10.6	22.6	16.7	18.0

Working for a large multiple and in primary care pharmacy were not statistically significant in relation to respondent's expected pattern of work. However, those respondents who were certain that they wanted an entrepreneurial career were also, proportionally, the largest group who expect to work full-time (either until retirement or who aim to retire early). These results indicate that respondents' expectations about their practice patterns differed according to they type of pharmacy practice they hoped to work in.

6.53 Career breaks

We have already seen, in 6.52, that a large proportion of respondents in the sample expected to spend some of their career working part-time. The purpose of including a question on anticipated career breaks was to establish whether respondents expected to take career breaks – and if they did, the type of breaks respondents expected to take. Once again, part of the rationale for including this question on expectations was to use it to compare with practice at later points in time – but, once again, the question was also included to provide some evidence about the size of potential exits from the pharmacy workforce.

Only 8.1% of respondents said that they did not expect to have career breaks during their career, although a further 14.1% said they did not know whether they would. Of those who expected to have career breaks, 46.7% said they expected to have a career break to start a family; 38.0% to travel abroad; 19.6% to work abroad; 10.7% to study; and 1.1% for 'other' reasons.

Proportionally, more male (16.5%) than female (8.4%) respondents expected to take a career break to study and to travel abroad (where 44.5% of male and 35.4% of female respondents expected to take a career break to travel abroad). These differences were statistically significant, as was the difference between male and female respondents who said that they did expect to have a career break, where we found that 17.1% of male and 4.5% of female did not expect to have a career break. Not surprisingly, given the large proportion of females in the sample, female respondents were significantly more likely to expect to take career breaks to start a family (61.5%) than male respondents (9.8%).

Comparing between white and non-white respondents the only statistically significant difference was between those who expected to take a career break to work abroad, where we found that 22.6% of white and 16.9% of non-white respondents expected to work abroad. However, proportionally more white respondents expected to take a career break to travel abroad (39.3% compared with 36.3% of non-white respondents) and to start a family (49.7% compared with 45.8% of non-white respondents) – and white respondents, proportionally, were more likely to say they did not expect to take a career break (7.5% compared with 7.3% of non-white respondents). Conversely, 12.3% of non-white respondents expected to have a career break to study compared with 8.8% of white respondents.

Looking at those who expected to travel abroad (38.0% of all respondents), we found that 57.0% of white Irish, 43.7% of Indian, 36.3% of white British and 22.6% of black African respondents expected to take a career break to travel abroad, differences which were statistically significant. Expecting to work abroad was also statistically significant, with 28.0% of white Irish, 22.3% of Indian, 21.7% of white British, 16.1% of black African and 9.8% of Pakistani respondents expecting to take a career break to work abroad. Finally, significant differences were found in terms of the ethnicity of respondents and their expectations to have a career break to start a family. Here, we found

that 57.9% of Bangladeshi, 54.6% of white British, 47.0% of Indian, 42.4% of Pakistani, 41.9% of black African and 33.3% of white Irish expected to have a career break to start a family.

There were no significant differences when expectations for career breaks were analysed controlling for gender, except for between white and non-white females' expectations to work abroad, where we found that 21.6% of white females and 15.6% of non-white females expected to take a career break to work abroad. White males were proportionally more likely than non-white males (25.7% compared with 19.6%) to expect to work abroad and to not expect to take a career break (18.1% compared with 12.5%). Non-white male (17.9%) and non-white female (9.7%) respondents were proportionally more likely to expect to take a career break to study (compared with 14.6% of white males and 7.0% of white females who expected to take a career break to study). While 46.4% of non-white male respondents expected to take a career break to travel abroad (compared with 44.4% of white males) 31.5% of non-white female respondents expected to take a career break to travel abroad (compared with 37.6% of white females).

The implication of these results, especially when combined with those presented in 6.52, for workforce planners is that many members of the sample expect to take career breaks and few expect to work full-time until retirement. In order to find out whether some sectors of the profession – identified as respondent's career choice for practice in ten years time – were more likely than others to be affected by career breaks, we analysed those who were certain of a career working for a large multiple community pharmacy (50.5% of respondents) and those certain of a career in hospital pharmacy (60.3% of respondents). The results of this analysis show that those who were certain that they wanted a career in hospital pharmacy were more likely than sample as a whole to expect to have a career break to work abroad than the sample as a whole (24.3% compared with 19.6%). Those who were certain that they wanted a career working for a large multiple community pharmacy were less likely than the sample as a whole to expect to have a career break (6.9% compared with 10.7%) and more likely to expect to have a career break to start a family (52.9% compared with 46.7%). These three results were the only statistically significant ones, and suggest that some careers are perhaps conceptualised by respondents as more compatible with geographical mobility (hospital pharmacy) and some perhaps to family-building (community pharmacy working for a large multiple). It will be interesting to observe whether these conceptualisations change over the course of the study as respondents start to build their careers.

6.54 Attitudes towards being a pharmacist

This section of the questionnaire was comprised of a series of attitude statements designed to explore how respondents conceptualised a career in pharmacy and their beliefs about what working as a pharmacist might consist of. The rationale for including this section in the questionnaire was to allow us to collect data relating to respondents' expectations of the profession at an early stage in the study that could then be compared with experience of pharmacy practice at later points in time. In addition, we felt that data collected in response to these attitude statements were useful for making comparisons with results to other questions in Early Choices, so, for example, results presented in this section once again relate to career commitment and the possible 'drifters' in the sample.

A total of 24 statements were included in this section of this questionnaire. For each statement, respondents were asked to indicate the extent to which they agreed or disagreed using a five point Likert scale ranging from strongly agree to strongly disagree.

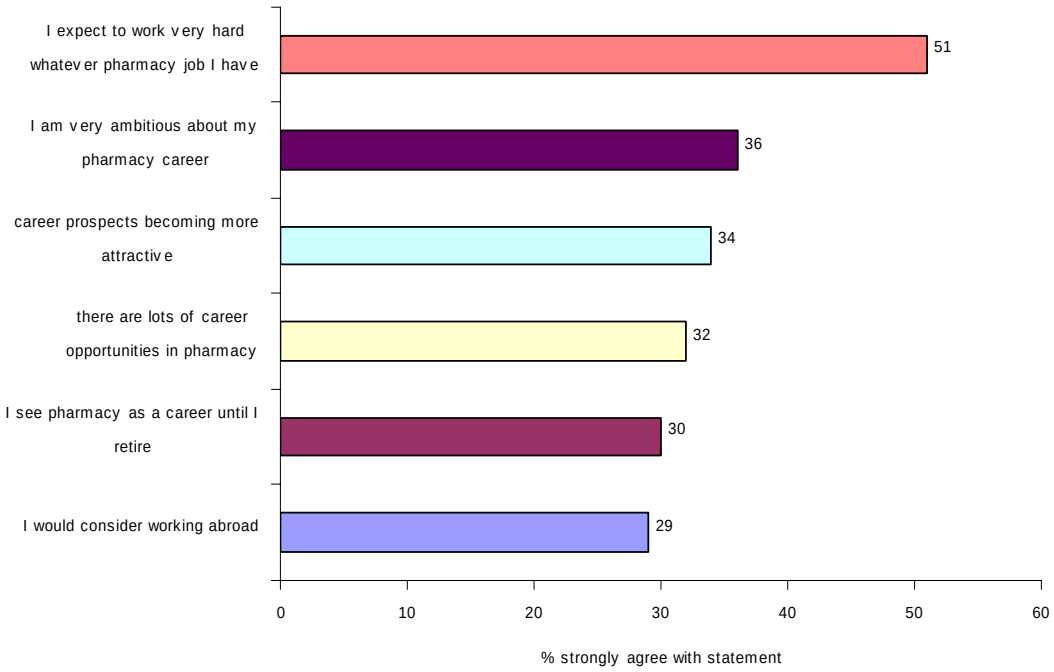

Table 21 (overleaf) gives the proportions of male and female respondents who agreed or strongly agreed with the statements. As can be seen in Table 19, for females, the statements which the largest proportions of respondents agreed or strongly agreed were: I expect to work very hard whatever pharmacy job I have (95.8%); there are lots of career opportunities in pharmacy (89.1%); career prospects in pharmacy are becoming more attractive (85.8%); starting salaries are good in community pharmacy (81.5%); I am very ambitious about my pharmacy career (80.4). Looking at male respondents, statements that the largest proportions agreed or strongly agreed with were: I expect to work very hard whatever pharmacy job I have (91.4%); there are lots of career opportunities in pharmacy (81.5%); I am very

ambitious about my pharmacy career (79.0%); starting salaries are good in community pharmacy (76.6%); pharmacists are well respected by the general public (74.0%).

Table 21: List of Statements – Combined strongly agree and agree via gender

Statement	Male %	Female %	Total %
I would recommend studying pharmacy to anyone	68.6	70.5	70.0
I am undecided about my future career	29.3	22.2	24.2
I expect to work very hard whatever pharmacy job I have	91.4	95.8	94.5
I would not want to work outside pharmacy	39.7	50.9	47.8
Career prospects in pharmacy are becoming more attractive	70.3	85.8	81.3
I am worried that I won't get a job	28.5	28.6	28.5
Pharmacists are well respected by the general public	74.0	79.5	77.9
I am very ambitious about my pharmacy career	79.0	80.4	80.1
I want to work for a large company and work my way up	52.5	49.8	50.5
Pharmacists are poorly paid in comparison to other professionals	39.1	26.8	30.4
I see pharmacy as a career until I retire	68.0	71.2	70.3
Pharmacists are well respected by other health professionals	53.2	62.7	59.8
I want to work in the NHS	35.7	45.6	42.8
I'll find it easy getting a non-pharmacy job with the skills I have	47.4	35.0	38.5
I would consider working abroad as a pharmacist	71.6	70.6	70.9
Starting salaries are good in community pharmacy	76.6	81.5	80.0
There are lots of career opportunities in pharmacy	81.5	89.1	87.0
Pharmacists have to work long hours	58.5	51.9	53.7
I am worried that I won't secure a pre-registration placement	47.4	56.4	53.8
I want to do something other than being a pharmacist	23.8	16.6	18.6
Opportunities to interact with patients are greater in hospital pharmacy	60.5	64.7	63.5
Embarking on a pharmacy career is an exciting prospect	70.3	79.7	77.0
I am keen to open my own pharmacy business	49.8	31.9	37.0
I don't know what sort of career in pharmacy I want	24.6	19.6	21.0

The consistency in general across both male and female respondents in terms of the statements the largest proportions agreed or strongly agreed with

was also found when white and non-white respondents were analysed. These results can be seen in Table 22 below.

Table 22: List of Statements – Combined strongly agree and agree via collapsed ethnic group

Statements	White %	Non-white %	Total %
I would recommend studying pharmacy to anyone	66.6	74.1	70.1
I am undecided about my future career	26.9	20.4	23.9
I expect to work very hard whatever pharmacy job I have	94.2	94.9	94.5
I would not want to work outside pharmacy	48.7	47.1	48.0
Career prospects in pharmacy are becoming more attractive	82.0	80.6	81.4
I am worried that I won't get a job	28.9	37.2	28.7
Pharmacists are well respected by the general public	76.2	81.2	78.5
I am very ambitious about my pharmacy career	78.0	83.9	80.8
I want to work for a large company and work my way up	36.1	66.5	50.4
Pharmacists are poorly paid in comparison to other professionals	25.5	35.3	30.1
I see pharmacy as a career until I retire	72.8	66.8	70.0
Pharmacists are well respected by other health professionals	58.4	62.3	60.3
I want to work in the NHS	40.9	45.9	43.3
I'll find it easy getting a non-pharmacy job with the skills I have	39.7	37.0	38.4
I would consider working abroad as a pharmacist	72.2	68.8	70.6
Starting salaries are good in community pharmacy	85.5	73.9	80.1
There are lots of career opportunities in pharmacy	90.9	82.6	87.1
Pharmacists have to work long hours	51.7	56.0	53.7
I am worried that I won't secure a pre-registration placement	55.3	51.8	53.8
I want to do something other than being a pharmacist	14.1	24.0	18.7
Opportunities to interact with patients are greater in hospital pharmacy	59.8	67.5	63.4
Embarking on a pharmacy career is an exciting prospect	79.4	74.3	77.0
I am keen to open my own pharmacy business	28.0	46.1	36.4
I don't know what sort of career in pharmacy I want	22.6	18.9	21.00

The five statements white respondents were most likely to agree or strongly agree with were: I expect to work very hard whatever pharmacy job I have (94.2%); there are lots of career opportunities in pharmacy (90.9%); starting salaries are good in community pharmacy (85.9%); I am very ambitious about my pharmacy career (83.9%); career prospects in pharmacy are becoming more attractive (82.0%); embarking on a pharmacy career is an exciting prospect (79.4%). For non-white respondents, those statements which the largest proportions agreed and strongly agreed with were: I expect to work very hard whatever pharmacy job I have (94.9%); I am very ambitious about my pharmacy career (78.0%); there are lots of career opportunities in pharmacy (82.6%); pharmacists are well respected by the general public (81.2%); career prospects in pharmacy are becoming more attractive (80.6%).

When responses were analysed looking only at those where respondents strongly agreed with a statement, results relate in particular to respondents' attitudes towards pharmacy – and especially attitudes such as how individuals identify with and value the profession, and, critically, to their commitment to the profession. The top five statements where most respondents strongly agreed were as follows: I expect to work very hard (51.0%); I am very ambitious about my pharmacy career (35.6%); career prospects in pharmacy are becoming more attractive (34.1%); there are lots of career opportunities in pharmacy (31.6%); I see pharmacy as a career until I retire (29.9%).

Looking at the statements in more detail, in relation to the top three statements where most respondents strongly agreed, the following results were found. When 'I expect to work very hard' was explored in terms of the gender and ethnicity of respondents, it was not statistically significant. However when it was analysed in relation to collapsed ethnicity, it was just significant, with proportionately slightly more non-white respondents strongly agreeing with this statement.

Turning to the statement 'I am very ambitious about my career', this, too, was not significant when examined in relation to gender. However, in this case, it was found to be significant with collapsed ethnicity, with more non-whites than whites strongly agreeing with this (41.7% of non-whites compared with 30.8% of whites). When ethnicity was analysed in more detail, we found that 54.4% of Pakistani and 39.1% of Indian respondents strongly agreed with this statement, compared with an average of 35.9% of all respondents and only 29.0% of white British.

Finally, in relation to the statement 'Career prospects in pharmacy are becoming more attractive', this was not significant for either ethnicity as a whole or for collapsed ethnicity. However, it was significant when analysed in relation to gender, with more females than males strongly agreeing with this statement (36.4% compared with 28.5%). This result perhaps reflects the trend that the profession is in the process of becoming more attractive to women, and has some correlation with Hakim's argument that female students choose to study pharmacy because they hold a particular set of work and social values, and that these values have influenced the female students in our sample, first of all in their choice to study pharmacy, and then

subsequently these values have had an effect on their expectations of a career in pharmacy.[6,7]

The results presented above suggest that amongst our respondents, the majority had positive attitudes to the profession. Furthermore, the results demonstrated that large proportions of respondents were committed to the profession in terms of their intentions for and expectations of the future. Additional evidence in support of these claims was found in the results where respondents strongly disagreed with statements about the profession. Here it can be seen that only 20.5% of respondents strongly disagreed with the statement 'I want to do something other than being a pharmacist'; 19.6% strongly disagreed that they didn't know what sort of pharmacy career they wanted; 17.0% strongly disagreed that they were undecided about their future career; and 13.7% strongly disagreed that they were worried that they wouldn't get a job.

Looking at these negative statements in relation to how many respondents strongly agreed with them, 5.0% strongly agreed that they didn't know what sort of pharmacy career they wanted; 4.6% that they wanted to do something other than being a pharmacist; and 4.3% strongly agreed that they were undecided about their future career. In addition, when those who strongly agreed were combined with those who agreed, the proportions indicated perhaps a greater cause for concern, with 20.0%, 18.7% and 24.2% agreeing or strongly agreeing with these statements respectively.

As reported in 6.24, when we discussed those respondents who appeared to have drifted into pharmacy and who were not strongly committed to studying or practicing pharmacy, this result required further analysis. In relation to gender and ethnicity, there were no significant differences between male and female respondents in terms of those who didn't know what sort of pharmacy career they wanted. This variable was also not significant with collapsed ethnic group.

The 'I want to do something other than being a pharmacist' statement was significant with gender, with proportionally more men than women either strongly agreeing or agreeing with this (23.8% of males compared with 16.6% of females). When examined with collapsed ethnic group the relationship was again significant – with proportionally more non-white respondents (24.0%) than white respondents (14.1%) strongly agreeing or agreeing that they wanted to do something other than be a pharmacist. When ethnic group was examined in further detail, we found that while across all ethnic groups the average was 18.7% of respondents, 22.5% of Indian respondents agreed or strongly agreed, but only 13.8% of white British and 16.5% of Pakistani respondents agreed or strongly agreed with the statement.

The 'I'm undecided about my future career' statement was also significant when examined in relation to gender, with males again more likely to strongly agree or agree than females (24.6% of males agreed or strongly agreed with the statement compared with 19.6% of females). This statement was just statistically significant when examined in relation to collapsed ethnic group –

Chi sq 0.041 – but this time it was white respondents who were more likely to agree or strongly agree than non-whites (26.9% of whites compared with 20.4% of non-whites agreed or strongly agreed with the statement).

The trend that emerged from analysis of the statements, then, once again suggested that around 20% of respondents appeared to have a weak commitment to a career in pharmacy. However, as we saw in section 6.25 of this report, there was not a consistent trend across all the items, with some statements having proportionally more white than non-white, or male than female, respondents agreeing or strongly agreeing with any one particular statement.

A similar lack of consistency was found when these statements were examined in relation to each other. While the statements individually gave the impression that there were (approximately) 20% of respondents who may be in danger of drifting out of the profession, when the statements were analysed further (and in relation to each other) a more complex picture emerged. For example, when the statements 'I'm undecided about my future career' and 'I want to do something other than being a pharmacist' were examined together, the relationship was statistically significant, but only 7.3% of the sample said they agreed or strongly agreed to both. Furthermore, when 'I'm undecided about my future career' and 'I don't know what sort of pharmacy career I want' were examined in relation to each other, the relationship was also significant, but only 12.8% of the sample said they agreed or strongly agreed to both. Finally, when 'I want to do something other than pharmacy' and 'I don't know what sort of pharmacy career I want' were examined in relationship to each other, the relationship was again statistically significant, but only 5.8% of the sample said they agreed or strongly agreed to both. The results of this stage of the analysis therefore found that while those who agreed or strongly agreed with one of the statements were also more likely to do so with the others, they were not necessarily the same people who were agreeing or strongly agreeing to all of them. Once again, we concluded that it was difficult to determine a combination of variables that encapsulated those who appear to be drifting within the profession.

Thinking now about gender and career commitment more generally, we found that there were no significant differences in terms of respondents' expectations to work hard in their career; ambitions for their career; or whether they saw pharmacy as a career until retirement. But, significantly, female students were more likely to believe that career prospects in pharmacy were becoming more attractive (85.8% of female students compared to 70.3% of male agreed or strongly agreed with this statement) and more likely to think that there were lots of career opportunities in pharmacy (with 88.8% female students compared with 81.5% of male students). And it is of particular note that male students were more likely to want to do something other than be a pharmacist (23.8% opposed to 16.6% of female students) – a finding which is both significant and is a trend which has some parallels with the 2003 pharmacy workforce census, where men were more likely than women to regret becoming a pharmacist (7% and 4% respectively).[18] These findings

are discussed in more detail in Bulletin 1: Family-building and the future pharmacy workforce, which can be found in Appendix 3 of this report.

Since career commitment is often explored in economic terms, it is of note that in relation to the statement 'Pharmacists are poorly paid in comparison to other professions' proportionally more male respondents in our sample placed importance on financial reward than women: this statement was statistically significant, with more men strongly agreeing or agreeing than women with the statement (39.1% of male respondents agreed of strongly agreed with this statement compared with 26.8% of female respondents). This result indicated that perhaps male and female respondents were already exhibiting different preferences in the ways that they might realise job satisfaction, and that for many (and in particular female respondents) there was more to pharmacy practice than just financial considerations. Evidence from the USA suggests that intrinsic as well as extrinsic factors were traded off against financial reward when career decisions were made by pharmacists – and that these trade-offs differed according to gender.[29]

Finally, thinking about the ways that respondents conceptualised a career in pharmacy and their beliefs about what working as a pharmacist might consist of, the statement 'I am keen to open my own pharmacy business' produced some interesting results. Previous work has shown that males and in particular Asian males are highly represented in this sector of the workforce, and that support and business advice from extended family networks plays a key role.[9, 26] In the context of Early Choices data, we found that when this statement was examined in relation to gender, male respondents were more likely than female respondents to agree or strongly agree with this statement, with 49.8% of males respondents compared with 31.9% of female respondents agreeing or strongly agreeing with the statement. When the statement was examined in relation to white and non-white respondents, it was again significant – with non-whites more likely to be keen to open their own business than whites, 46.1% compared with 28.0% respectively. When ethnicity was examined proportionately within ethnic group, 43.7% of all Indians and 47.8% of all Pakistanis agreed or strongly agreed with this statement, compared with only 19.7% of all white British respondents. This result once again suggests that values have an effect on respondents' early choices, and this has parallels with the evidence in the literature.

When ethnic group is examined whilst controlling for gender there were proportionally more men within each main ethnic group than women who were keen to open their own business but the gender gap was closest in white British respondents with 26.2% of white British males being keen to open their own business compared with 17.8% of white British females. The next closest gender gap was Pakistani, followed by Indian and then by white Irish (out of these four ethnic groups). So while entrepreneurial ambitions were stronger in male rather than female respondents overall, white British females were proportionally more likely to have been interested in an entrepreneurial career than other ethnic groups.

The influence of familial ties was once again found, with having a family member who was a pharmacist being significantly related to the statement that 'I am keen to open a pharmacy business'. Those who were keen to open their own pharmacy business were more likely to have an aunt or uncle who was a pharmacist (49.3% of those who were keen to open a pharmacy business had an aunt or uncle who was a pharmacist, compared with 34.4% of those who hoped to have an entrepreneurial career but did not have a relative who was a pharmacist). The aunt or uncle variable also had a significant relationship with ethnic group, with 29.0% of Indians having a pharmacist in the family compared with 18.0% of white Irish, 5.4% of Pakistanis and 4.9% of white British. This result illustrates that extended family networks are particularly strong among Indian pharmacists.

From the results in this section, it can be seen that there was a general consensus amongst respondents in terms of their attitude to the profession – and that they were, generally, positive about the future. However, we found once again that there were a small proportion of respondents who appeared to be drifting and who have a weak commitment to pharmacy. What remains to be seen in the future is the effect that this has on respondents' practice patterns.

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8. Appendices

Appendix 1: Early Choices Questionnaire – Rationale for the questions

The 'Early Choices' questionnaire centers on the concept of 'occupational awareness' – how people's views of a particular career are informed and shaped. There are several components to this: *why* pharmacy was chosen (ie, reasons for choice), *when* it was chosen, and *how* it was chosen. Questions that operationalise these components will help to provide an indication of the influences on pharmacy students, and then later, whether these influences have any predictive value in assessing which sector of practice students enter, or whether they leave the profession early.

Research findings already exist on this particular topic (including KH's PhD, work from Boardman & Blenkinsopp, and others). The preliminary focus groups we ran have provided an opportunity to update these findings, which largely corroborate what's already known, and the work from Aston's snap-shot study provides further evidence for the validity of the questions and items within questions suggested in the draft.

The questionnaire also aims to gather data on choices made about the particular institution they chose (although this has a lower priority if we need to shorten the questionnaire), and choices made about their pre-registration training.

The questionnaire is sequentially structured so as to follow a logical order of career events: starting with choosing to study pharmacy through to early career intentions, as follows:

1. Choosing to study pharmacy:
   When (ie, early or later)
   How (ie, what information, from whom, type, amount)
   Why (ie, reasons)

2. Choosing an institution

3. Choosing pre-registration training

4. Early career intentions

5. Demographic questions

More detail is given about each question below: why the question is important and what data will be derived from responses. Some indication is given as to the level of priority for inclusion (with 1 highest)

Choosing pharmacy

Age when decided to study pharmacy. Identifies those people who have always wanted to do pharmacy, and those for whom it was a 'late' decision; ie, pre-A levels or post . Will be able to establish whether there are any differences between men and women, between white and ethnic minority pharmacists, etc.

Viable alternatives. Helps to establish the degree to which students make informed choices about their future career, and whether alternatives to studying were considered.

Non-specific career advice. Again, helps establish the degree to which students are informed, about going to university in general in this instance.

First choice. Identifies individuals (or groups of individuals) for whom pharmacy was first choice and those for whom other subjects were preferred. Do pharmacists who originally wanted to do a different subject differ from pharmacists whose first choice was pharmacy. Are they more or less happy with their career, for example?

Sources of information about a pharmacy career. This question identifies the sources of careers information, and of them which is the most helpful. It also identifies any shortcomings in terms of sources.

Pharmacist in the family and family reaction. Establishes whether any links between career choice and occupational inheritance, and influences from them.

Reasons for choosing pharmacy as a career. This question establishes the importance of several reasons for choosing pharmacy, and includes extrinsic and intrinsic factors identified already from the literature and our focus group work.

University choice

Factors influencing choice of university. Establishes which reasons were important when choosing the particular institution, and which groups are influenced more by family for eg.

Visit to the university. As above, and helps to determine whether students who have not visited the place beforehand have a greater likelihood of not completing the course.

Method of application to university. There's evidence to suggest that students who go through clearing have a greater likelihood of non-completion, and a greater chance of lower achievement later in their career. This will identify those who applied through this method.

Strength of desire to study pharmacy. Measures commitment early on.

Career path. Will provide evidence about original career choice for different groups of pharmacists.

Pharmacy degree expectations. This will help establish whether there's a link between later career outcomes and initial expectations of the course. It will also help to establish whether it can be used as a predictor of early exit from training or the profession in general.

Difficulty of course and repetition of exams. This will help establish whether those who struggled with the course have poorer career outcomes later in life.

Consider changing degree programme and reasons why. These will also help establish how many experience problems, and why, and whether those who experienced difficulties have poorer career outcomes later in life

Pre-registration training

Action immediately after graduation. Will help differentiate and filter out the students who do not intend to go on to complete their pre-registration training straight away.

Pre-registration training. This collects data about branch of training. Is it the same as the one intended or different? Who is more/less likely to obtain 'prestigious' posts? Do they correspond to original intention as identified earlier on.

Pre-registration post first choice or not, and difficulty. Will provide data about any problems experienced obtaining training posts.

Factors influencing pre-reg choice. Having established earlier on in the questionnaire why students chose pharmacy in the first place, this question will help establish what factors from doing the course influenced their choice of pre-reg placement .

Location of training post. Needs more work this one, but my intention was to try to establish whether students stay near their place of study, return home (?), or go elsewhere.

Early career intentions

Current career choice. Will help establish the sort of career students think they want now, and how certain they are about it. Later we can determine whether original expectations are met or not.

General work pattern intentions. Will help identify groups of pharmacists who desire to work part-time, and the degree to which people consider work/life balance.

Attitudes towards being a pharmacist. These statements need to be considered in more detail, particularly in relation to doing a factor analysis on them. However, at the moment they are intended to identify the degree to which students 'buy-in to' the profession or not, whether they have formed views already about what they want to do; perceptions of their profession, awareness of the labour market opportunities that are available to them.

Demographics

Personal details about the respondent. Will help to establish a profile of respondents: date of birth, permanent address, gender & ethnic group.

Appendix 2: Key findings from the pilot Early Choices questionnaire with the 2004 cohort

- *Respondent profile*: The majority of the sample and of the respondents were female (both 78%). Proportionally more male respondents were non-white, with 40% of males coming from a non-white ethnic group compared with 17% of females.

- *Ethnicity* was found to have a statistically significant relationship with whether pharmacy was a respondent's *first choice of university course* – those for whom pharmacy was not the first choice of degree were more likely to come from a non-white ethnic group, with 36% of non-white respondents saying pharmacy was not their first choice of degree as opposed to only 10% of white respondents.

- The majority of respondents used university prospectuses to help them choose their undergraduate course (94% of respondents) and attended university open days (77%). Few (13.6%) reported using the RPSGB to help them make this decision.

- Several differences emerged in terms of *reasons to study pharmacy*. While the two most commonly given reasons were that it is a '*science-based course*' (21.4%) and that it is a '*health-related field*" (18.5%), the proportion of male respondents who cited 'science-based course' was 33.3% compared with 17.6% of female respondents, and conversely 21.2% of female respondents reported wanting to work in a 'health-related field' as having the most influence on their decision to study pharmacy compared with 9.3% of males. Although this finding is not statistically significant in relation to gender and the 'science-based course' variable it is statistically significant on the 'health-related field' variable. Other variables having a statistically significant relationship with gender are 'I wanted to have my own business,' 'I was influenced by pharmacy work experience I had while at school' and 'I wanted a job with opportunities for flexible working'. In addition, the first two of these variables have a statistically significant relationship with ethnic group as well.

- In terms of *factors that influenced choice of university*, the three most influential were 'visit to the university' (24.1%), 'proximity to family' (18.6%) and 'reputation of course' (18.1%). If the most influential factor is analysed in relation to gender, there is no statistically significant relationship. However, the relationship is significant when analysed in relation to *ethnicity* – respondents of white ethnic origin are much more likely to decide by visiting the university than people of non-white origin, who are proportionally more likely to base their decisions on factors such as 'proximity to family', 'recommendation of family or friend' and 'reputation of university'.

- When *choosing their pre-registration training post*, two factors were found to have a strong influence – *career and promotion prospects* (41%) and *domestic/personal circumstances* (40%). This is an interesting finding, and may suggest that intrinsic as well as extrinsic factors play an important part in career decisions, and may indicate some parallels with a study of US pharmacists which found that job-related decisions involve more than financial considerations.[1]

- *Expected pattern of work* over a respondent's career was found to vary statistically significantly according to *gender*, with 88% of those who plan to work full-time early on and then part-time later being female. Only 20% of respondents overall said they planned to work full-time until retirement as opposed to 40% who plan to work full-time early on and then part-time later.

Appendix 3

A Longitudinal Cohort Study of Pharmacy Careers

DRAFT

Bulletin 1: Family-building and the future pharmacy workforce

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Introduction

The results presented in this paper are from a longitudinal cohort study about pharmacy careers which is collecting data on employment practices, participation levels, and patterns of work of the 2006 pharmacy graduate cohort. The purpose of this study is to understand more about employment patterns, and pharmacists' early career choices and levels of job satisfaction. The study also aims to explore the experiences, motivations and expectations of the workforce, and of the ways that these experiences, motivations and expectations may change over time.

Findings presented in this paper draw attention to several issues that have emerged from an analysis of data collected for the first stage of this study. In order to contextualise these results, some contemporary workforce trends are first described.[1-4] This contextualistion will help to provide a framework for thinking about family-building and the future pharmacy workforce in relation to the 2006 cohort.

Contemporary workforce trends

Results of the 2002 and 2003 RPSGB workforce censuses demonstrate a growing trend in female participation in the profession, with over 60% of new entries onto the pharmaceutical register in 2003 being women.[2]

Having a female-dominated profession presents workforce planners with a particular problem if projections about women's participation rates in employment based on earlier studies[5, 6] are accurate. These studies, analysing participation rates of women pharmacists who graduated in 1953 and 1966, found that a woman pharmacist might be expected, over her career, to work 60% of the amount of time worked by a man.

Looking more closely at the availability for work of women on the 2002 and 2003 pharmaceutical register, non-standard employment patterns – where standard work patterns are taken to mean full-time working – can be found to be on the increase. Between 2002 and 2003 an increase in part-time working was recorded, up from 40.5% to 42.0% of female respondents. It is of particular note that this kind of work pattern is gendered: only 20% of men responding to the 2003 census described themselves as working part-time.[2]

And not only do men and women follow different work patterns, they also appear to follow different career trajectories. For example, while there is evidence that women dominate the hospital sector, they remain concentrated in the middle grades.[4] This trend indicates that gendered occupational segregation is taking place, and that men and women are working in 'gender niches', a term describing an area in which one gender is significantly more likely to be employed than in other areas of the occupation.[7]

Determining the ways that gender 'niche-ing' has an effect on the sector the 2006 graduates work in, the nature of work performed, and the pattern of work, is one of the broader aims of the study, but outside the scope of this

paper. However, data presented here will provide some evidence of whether the cohort may follow the pattern of gendered occupational segregation already established in the profession.

A continuing trend?

To consider how these workforce trends may be of relevance to the workforce of the future, a survey of the cohort of pharmacy students studying at 14 GB schools of pharmacy, and graduating from the MPharm course in 2006, was undertaken in the spring of 2005. At the time of completing this survey the cohort were coming to the end of the third year of their four year degree programme. The rationale for the timing of this survey was to capture respondents at a time when issues relating to career choice might be coming into focus, since at this point in the third year students have to begin to make choices about where to do their pre-registration training.[8] The survey had an explicit focus on choices made as undergraduates, and was called 'Early Choices'.

The overall response rate to the survey was 67%. Looking at those who completed the survey, 71.5% of respondents were female, and 28.5% were male. The high proportion of women responding to our survey reflects the trend reported by the censuses of increasing numbers of women qualifying as pharmacists, and indicates that the feminisation trend of the workforce will continue. Although female students may be over-represented as respondents to the survey, HESA data for the cohort when they entered university in the academic year 2002/03 shows female students to be in the majority in the cohort (constituting 63.3% of students beginning an enhanced first 4 year degree in pharmacy or pharmacology).

Assessing the meaning and implications of a growing female presence in pharmacy, the results of our survey are presented in relation to the following topics: gender niche-ing; work patterns; family-building; and career commitment.

1. Gender niche-ing

The Early Choices questionnaire explored respondents' pre-registration training intentions. In answer to the question: Where do you hope to do your pre-registration training? 43.5% of all respondents said that they wanted to do it in the hospital sector. Moreover, this finding is statistically significant when examined by gender, with 46.1% of female compared with 36.7% of male students hoping to do their pre-registration training in the hospital sector. However, only around 40% of pre-registration places are available in the hospital sector, which means that some respondents will be unsuccessful in their choice of training sector.

While this question is about *plans* for pre-registration training rather than actual sector of practice, a later question asks respondents about where they see themselves working in 10 years time. Here, we found that 53.4% of male students, and 63.1% of female students, said they were certain or very certain

that they want to work in the hospital sector of the profession, a difference in career intentions that is again statistically significant.

The large proportion of female students choosing hospital pharmacy indicates that the hospital sector constitutes a growing 'gender niche', since analysis of the 2002 census reported that women are considerably over-represented in the hospital sector.[4] It also suggests that the setting in which a pharmacist works may be a function of gender, as was found by a study of Canadian pharmacists.[9]

Gender segregation in the workplace occurs in other graduate occupations. A national longitudinal study of graduates has found that over 40% of women work in jobs exclusively or mainly done by women in their workplace; and over 50% of men are working in contexts where their jobs were exclusively or mainly done by men.[7] Purcell and Elias's study[7] argues that gender niche-ing arises because women in female-dominated work contexts find them to be comfortable places in which to develop careers. However, Hassell's work[4] demonstrates the existence of a glass ceiling in hospital pharmacy which prevents women being promoted to senior management posts, and this glass ceiling may have an effect on the kinds of career opportunities available for the 2006 cohort in the future.

2. Work patterns

With a large proportion of female students in the cohort, it is perhaps not surprising that when asked about expected pattern of work over the course of their career, the most popular response from all the sample was to 'work full-time but with breaks for maternity leave' (22.6%). Other common responses were: 'work full time early on then part time later' (18% of respondents), followed by 'work full time until retirement' (14.9%). This variable was statistically significant in relation to gender: of those who expected to work full-time until retirement, 64.1% were male. Comparison between male and female students' expected work patterns demonstrates some other striking differences: looking at the highest frequencies for this variable for male respondents, 33.3% of male respondents expected to work full-time until retirement, and 25.9% to work full-time but aim to retire early; but for female students, the highest frequencies were for work full-time but with breaks for maternity leave (31.1% of female respondents); work full-time early on and then part-time later on (20.1%); and work predominantly full-time with periods of part-time work (18.5%). The variable also had a significant relationship with collapsed ethnic group (white/non-white): non-whites were more likely to expect to work full-time until retirement and less likely to expect to have career breaks.

3. Family building

An attempt to quantify the impact of family-building was made in the questionnaire with a question asking about expected career breaks. 61.5% of female students expect to have a career break to start a family. However, ethnicity has an important effect on family-building and career breaks, with

only 44.4% of white Irish female students expecting to have a career break to start a family compared with 84.6% of Bangladeshi female students. While these results are significant, there are only 17 Bangladeshi female students in the sample compared with 349 white British and 72 white Irish female students. This means that the relative impact of family-building on the pharmacy workforce of the future is likely to be contingent upon the proportions of different ethnic groups in a cohort in addition to the gender mix of a cohort.

The profession itself often explains female entry into pharmacy in terms of how the profession allows its practitioners to pursue a career in addition to family-building.[10] But the implications of a growing female presence have yet to be established. There is a substantial body of literature that suggests that family-building has an effect on women's participation in the labour market, with theorists such as Hakim arguing that women who have family commitments are less committed to their careers.[11] Often hours of work are used as a proxy measure of commitment, with an analysis of hours worked by male and female pharmacists undertaken by Mott (2001) using labour economic theory revealing the number of children at home was significantly associated with the weekly and annual hours worked outside the home by women.[12]

4. Career commitment

However, economic analysis which measures commitment in terms of number of hours worked fails to account for work values and the effects they may have on practice patterns. To operationalise this aspect of career commitment a series of attitude statements relating to the profession, and motivation to work in the profession, were included in the Early Choices questionnaire. These statements were designed to measure how much individuals identify with and value their profession. Because career commitment refers to a strong and pervasive sense of attachment to a set of beliefs, ideas, and future direction, it is understood as providing a clear sense of occupational preference along with a firm attachment to a particular vocational goal. And our conceptualization of career commitment in terms of values is particularly relevant, because other studies of pharmacists' attitudes to work argue that there are gender differences in work values, with men placing more importance on career development and financial reward, and women valuing family development, socially-useful work, and community development.[13]

The results of our own survey do not suggest that female students are less committed to the profession than male students – there were no significant gender differences in terms of respondents' expectations to work hard in their career; ambitions for their career; or whether they saw pharmacy as a career until retirement. But, significantly, female students were more likely to believe that career prospects in pharmacy are becoming more attractive (85.8% of female students compared to 70.3% of male) and more likely to think that there are lots of career opportunities in pharmacy (with 88.8% female students compared with 81.5% of male students). And it is of particular note that male students are more likely to want to do something other than be a

pharmacist (23.8% opposed to 16.6% of female students) – a finding which is both significant and is a trend which has some parallels with the census, where men were more likely than women to regret becoming a pharmacist (7% and 4% respectively).

Discussion

The results of the Early Choices questionnaire suggest that family-building is likely to have a significant impact on the hours female students will work as pharmacists, but that the intention to have career breaks to start a family does not imply that female students are less committed to the profession than male students. However, as work patterns change over the course of a career it is possible that the relative importance an individual places on work in relation to other roles in their life may change. What remains to be seen is whether Hakim's contention – that women are less likely to pursue a promotional career once family-building begins – is played out by the future pharmacy workforce. It may well transpire that occupational segregation, and in particular the sector of practice, will impact on female students' ability to realize their expectations of having a good career with many opportunities and that it is this which will have more effect on women's commitment to the profession than family-building. Since the study being conducted is longitudinal, future surveys will be able to track how experiences, motivations, and expectations change over time. This will enable us to make more accurate projections about participation rates of female students in the future pharmacy workforce.

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Appendix 4

A Longitudinal Cohort Study of Pharmacy Careers

DRAFT

Bulletin 2: Entrepreneurialism in the future pharmacy workforce – Which students want to be pharmacy owners?

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Introduction

This paper is based on the findings from the first wave of questionnaires in a four year longitudinal survey examining early career choices and expectations of pharmacists along with subsequent patterns of work and levels of job satisfaction within the 2006 pharmacy graduate cohort. A main aim of the study is to understand what factors are influential in pharmacy career choices, whether they are put into practice and how career expectations and motivations may change over time through experience.

Pharmacy workforce data in 2002[1] showed that 13.2% of working pharmacists were pharmacy owners, 79% of which were male and 21% female. In terms of ethnic origin, 52% of all owners were White British, 31% Indian, 4.6% 'White Other', 2.9% Chinese and 2.6% 'White Irish'.

Pharmacy owners in the community pharmacy sector form a distinctly entrepreneurial group of practitioners with their own unique characteristics. Traditionally, it has been a male dominated area of practice with disproportionately high levels of involvement from ethnic minority (predominantly Asian) pharmacists.[2] Research has shown that Asian pharmacy business owners have higher than average access to financial support and business advice through family networks. [2]

The aim of this paper is to examine the characteristics of 'would be' entrepreneurs within the 2006 pharmacy graduate cohort and to look for continuity or change in the context of previous patterns.

Methods

The questionnaire was aimed at all pharmacy students in the 2006 graduate cohort across 15 schools of pharmacy in the UK. The overall response rate was 67%. A key characteristic of the sample is that it has higher proportions of females to males with 71.5% female and 28.5% male (compared to 53% female and 47 male on the register). The sample is also composed of proportionally high ethnic minority respondents with almost 20% comprised of students from an Indian background.

The questionnaire included 3 questions related to the theme of entrepreneurialism. The students were asked: (1) whether the prospect of owning a business was an influence on them wanting to study pharmacy; (2) how certain they were that they'd own their own business in 10 years time, and (3) the extent to which they agreed with the attitude statement, "I am keen to open my own pharmacy business". For the sake of conciseness, the first two questions are examined here because they most directly address entrepreneurialism as a reason for initially entering the profession along with respondents' current intentions to pursue this career goal.

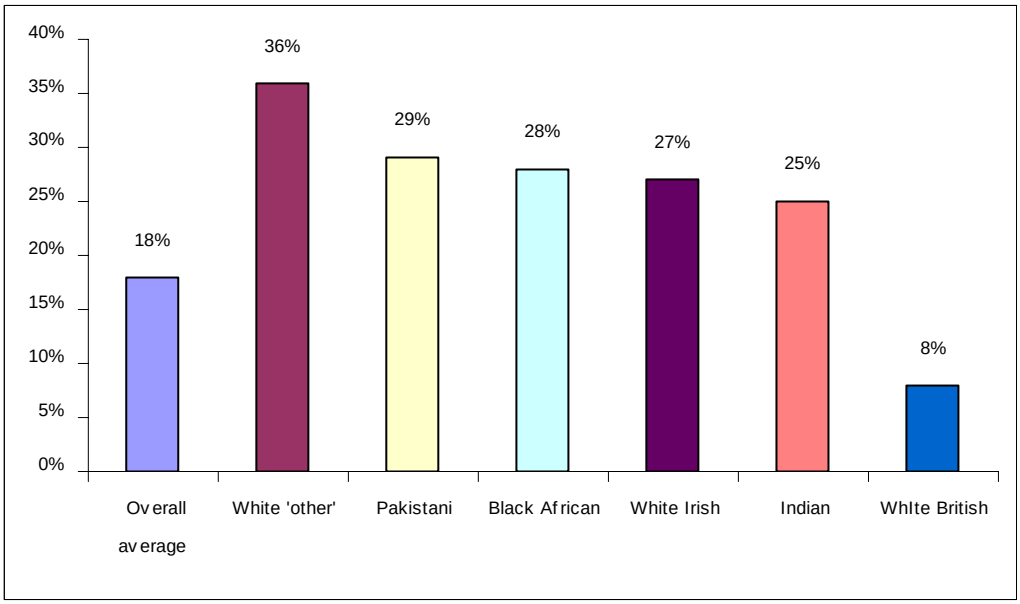
Reasons to study pharmacy

Nearly 18% of the students stated the prospect of owning their own business strongly influenced their reasons for choosing to study pharmacy. A further 30% said that they were partially influenced by this. Considering the actual proportion of owners within the pharmacy workforce, this shows that entrepreneurial intentions are high amongst current 4th year students.

When these would be pharmacy owners were explored further, statistically significant relationships were found with both gender and ethnic group. In terms of gender, the traditional patterns were replicated to an extent as proportionally more males than females (28% of males compared to 14% of females) said having their own business was a strong influence on studying pharmacy. However the gender gap is nowhere near as wide as it is in current pharmacy owners.

Indian students were the highest ethnic group overall who were 'strongly influenced' followed by white British and white Irish. Proportionately within each ethnic group, those who were most likely to have been strongly influenced by this reason alongside those of a white Irish and white 'other' background, were Pakistani, black African and Indian students, as shown in figure 1. *(Note top 5 ethnic groups shown alongside average% and white British as comparisons – ethnic groups with frequencies less than n=10 were not included in top 5)*

Figure 1 – 'Strongly influenced' to study pharmacy because of entrepreneurial opportunities by % within ethnic group



Furthermore, gender and ethnicity were interrelated so that while men were almost always more likely than women to be influenced by the prospect of business ownership (with the exception of black African students), women in some ethnic groups were more influenced than others. For example, although

white Irish and Pakistani students overall displayed strong entrepreneurial intentions in terms of why they chose to enter the profession, these two ethnic groups were particularly male dominated in respect of these intentions. The ethnic groups which were more likely to comprise females with entrepreneurial intentions were black African and white British. There may be cultural factors at play here.

Current career choices over the next 10 years

When asked the question about what they see as their current career choices over the next 10 years, similar patterns were observed. 13% said they were 'very certain' that they would own a community pharmacy business and a further 20% said they were 'quite certain'. So a combined 33% displayed current entrepreneurial intentions.

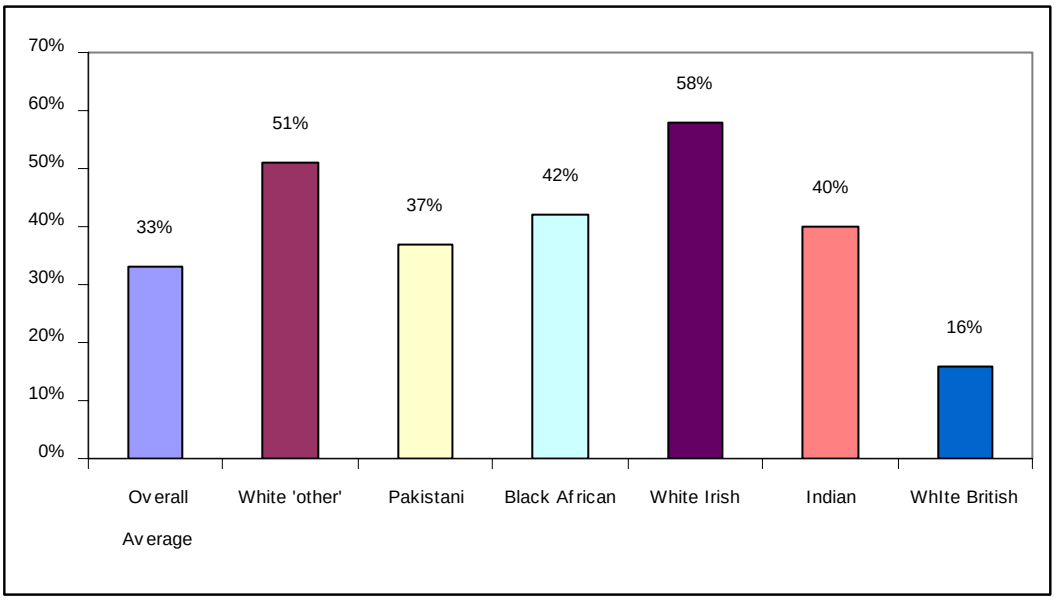
Firstly, when this question was examined in relation to the previous one there was a strong statistically significant relationship, as 77% of those who reported that the prospect of owning a pharmacy business strongly influenced them to initially choose pharmacy as a degree were still either very certain or quite certain of that intention at the time of filling in the questionnaire. So it appears that those initial intentions were for the majority of students, still in place 3 years into their degree courses.

When the categories 'quite certain' and 'very certain' were collapsed into a general 'certain' category, again gender and ethnicity significantly shaped students' intentions. 44% of males and 28% of females were certain they would own a pharmacy business. So again, while there were proportionally more male 'would be' entrepreneurs as may be expected, the gap between male and females was not as large as in the current workforce.

Indian students were again the highest ethnic group overall with entrepreneurial intentions, followed by white British and white Irish.

Figure 2 shows those most certain to own a pharmacy business proportionately within ethnic group. *(Note top 5 ethnic groups shown alongside average % and white British as comparisons – ethnic groups with frequencies less than n=10 were not included in top 5)*

Figure 2 - Certain to own business by % within ethnic group



As shown, the white Irish and white 'other' groups again contained high proportions of would be entrepreneurs, alongside those of Indian, black African and Pakistani backgrounds.

Once more gender and ethnicity were interrelated with men being almost always more likely than women to be certain of entrepreneurial intentions (again with the exception of black African students where the converse was true). The ethnic groups least likely to comprise females who were certain to own a business here were white 'other' and Indian, followed by white Irish.

Family connections

As has previously been found, entrepreneurialism and family connections within the profession are strongly related with some ethnic groups more likely to have a pharmacist in the family. [2] The pattern was replicated with present day students as Indian, White British and White Irish students were the most likely to have a pharmacist in the family in that order. The likelihood of this being the case with the question asking whether 'Aunt or Uncle is a pharmacist' (which is the most common relative to be a pharmacist overall) is even more pronounced. Of those who reported having an Aunt or Uncle who is a pharmacist, 46% were Indian, 16% were white British and 13% were white Irish.

Furthermore, respondents with an Aunt or Uncle who is a pharmacist are significantly more likely to be certain they want to own a pharmacy business than those who don't (52% compared to 47%).

This illustrates how extended family members such as an Aunt or Uncle may have a strong influence on career choice, particularly in Indian families.

Summary

* The findings from the first wave of questionnaires examining pharmacy students' early career choices demonstrate that entrepreneurial intentions are relatively high amongst current pharmacy students. The traditional male dominated pattern is replicated to an extent but the proportion of females who intend to become pharmacy owners is higher than the proportion of actual female owners in the pharmacy workforce. This may suggest that owning a pharmacy is seen as a growing possibility for female pharmacy students in the context of an increasingly feminised workforce.

* There is a strong link with the prospect of owning a pharmacy as a reason for choosing pharmacy as a degree and career intentions after three years of study. This shows that the majority of 'would be' entrepreneurs are not losing their convictions as they progress through their degrees.

* The findings demonstrate continuity with previous patterns in terms of ethnic group, in particularly those of Indian origin who intend to become pharmacy owners. Also, strong evidence is presented to confirm that having extended family networks involved in the profession plays a key role in this.

* A new finding in light of these data is the high proportions of 'White Irish' students who intend to become pharmacy owners. This may be due to high numbers of small independent rural pharmacies in Scotland, Northern Ireland and Ireland, (where many of these respondents intend to practice). This may appear to be a 'new' finding because those who end up practicing in Ireland are not covered in the recent GB pharmacy workforce censuses.

* Finally, cultural factors are evidently a key influence in terms of which female students plan on becoming pharmacy owners (ie black African and white British much more than Asian or white Irish students).

* It must be taken into consideration that the findings presented here are concerned with career intentions. Obviously many of these intentions may not come to fruition when the practical realities of opening a pharmacy are encountered. This may be particularly relevant considering the steady decline of independent pharmacies through competition from the multiples over recent years and an economic climate that does not favour the small pharmacy business. It will be of key interest to follow these respondents over the next few years and establish whether their intentions are put into practice, and whether the ones who don't fulfill their intentions remain satisfied in whatever alternative they choose.

References

1. Either 2002, 2003 or 2005 census

2. Hassell K, Noyce P, & Jesson J (1998) ‘White and ethnic minority self-employment in retail pharmacy in Britain: a historical and comparative analysis’.
Work, Employment and Society Vol 12 (2) pp 245-271

Appendix 5: Gender and ethnicity by school

The response rate to Early Choices is shown in brackets by school of pharmacy.

Aston (75%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	20.0	21.4	21.0
white irish	0.0	1.4	1.0
white other	3.3	1.4	2.0
black african	0.0	5.7	4.0
mixed other	0.0	1.4	1.0
indian	53.3	31.4	38.0
pakistani	13.3	21.4	19.0
bangladeshi	3.3	7.1	6.0
asian other	6.7	5.7	6.0
chinese	0.0	2.9	2.0
TOTAL %	100.0	100.0	100.0

There were proportionally more Indian than Pakistani respondents at Aston.

Bath (82%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	78.9	68.5	70.7
white irish	0.0	4.1	3.3
white other	5.3	5.5	5.4
black african	0.0	5.5	4.3
white & asian	0.0	1.4	1.0
indian	0.0	9.6	7.6
pakistani	0.0	1.4	1.1
other ethnic group	0.0	2.7	2.2
asian other	5.3	0.0	1.1
chinese	5.3	1.4	2.2
TOTAL %	100.0	100.0	100.0

At Bath, respondents were predominantly white British.

Bradford (44%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	17.4	40.8	33.3
white irish	4.3	0.0	1.4
white other	8.7	4.1	5.6
black african	4.3	6.1	5.6
white & asian	0.0	4.1	2.8
indian	21.7	16.3	8.1
pakistani	30.4	24.5	26.4
bangladeshi	0.0	2.0	1.4
asian other	4.3	0.0	1.4
chinese	4.3	0.0	1.4
other ethnic group	4.3	2.0	2.8
TOTAL %	100.0	100.0	100.0

At Bradford, there were more Pakistani than Indian respondents. In addition, we found that there was the same number of white women as there were Pakistani and Indian combined.

Brighton (75%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	38.9	28.6	31.1
white irish	11.1	28.6	24.3
white other	11.1	5.4	6.8
black african	11.1	19.6	17.6
black other	0.0	1.8	1.4
indian	16.7	10.7	12.2
pakistani	0.0	1.8	1.4
asian other	5.6	3.6	4.1
other ethnic group	5.6	0.0	1.4
TOTAL %	100.0	100.0	100.0

The majority of respondents at Brighton were white British, although there was also a significant proportion of white Irish.

Cardiff (77%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	76.9	75.0	75.4
white other	0.0	3.6	2.9
black other	0.0	1.8	1.4
indian	15.4	1.8	4.3
asian other	0.0	1.8	1.4
chinese	0.0	14.3	11.6
other ethnic group	7.7	1.8	2.9
TOTAL %	100.0	100.0	100.0

Once again, the majority of respondents were white British. However, there were also a notable proportion of Chinese females.

De Montfort (97%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	5.1	9.3	7.5
black caribbean	0.0	1.9	1.1
black african	5.1	3.7	4.3
white & black caribbean	0.0	1.9	1.1
mixed other	0.0	1.9	1.1
indian	53.8	63.0	59.1
pakistani	23.1	7.4	14.0
bangladeshi	5.1	3.7	4.3
asian other	2.6	1.9	2.2
chinese	0.0	1.9	1.1
other ethnic group	5.1	3.7	4.3
TOTAL %	100.0	100.0	100.0

At De Montfort the majority of respondents were Indian, and there were more Indian than Pakistani.

John Moores (72%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	28.0	46.4	40.7
white irish	16.0	23.2	21.0
white other	0.0	3.6	2.5
black african	4.0	3.6	3.7
black other	0.0	1.8	1.2
mixed other	0.0	1.8	1.2
indian	16.0	8.9	11.1
pakistani	16.0	5.4	8.6
bangladeshi	4.0	0.0	1.2
asian other	0.0	1.8	1.2
chinese	8.0	3.6	4.9
other ethnic group	8.0	0.0	2.5
TOTAL %	100.0	100.0	100.0

While there were predominantly white (including Irish) respondents at John Moores, there were also quite a few Pakistani, Indian, Chinese and Black respondents.

Kings College (59%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	12.5	8.9	9.4
white other	12.5	8.9	9.4
black caribbean	0.0	2.2	1.9
black african	12.5	11.1	11.3
black other	0.0	2.2	1.9
indian	25.0	31.1	30.2
pakistani	12.5	11.1	11.3
bangladeshi	12.5	2.2	3.8
asian other	0.0	2.2	1.9
chinese	0.0	6.7	5.7
other ethnic group	12.5	13.3	13.2
TOTAL %	100.0	100.0	100.0

Proportionally, the largest group of respondents at Kings College were Indian females. It is also of note that the 'other' category was larger than for white British respondents.

Manchester (67%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	40.9	39.7	40.0
white irish	4.5	1.6	2.4
white other	0.0	3.2	2.4
black caribbean	0.0	1.6	1.2
black african	9.1	1.6	3.5
white & black caribbean	0.0	1.6	1.2
indian	4.5	15.9	12.9
pakistani	13.6	14.3	14.1
bangladeshi	4.5	6.3	5.9
asian other	0.0	1.6	1.2
chinese	22.7	6.3	10.6
other ethnic group	0.0	6.3	4.7
TOTAL %	100.0	100.0	100.0

White British respondents were proportionally quite high at Manchester, but there were also significant proportions of Indian, Pakistani and Chinese.

Nottingham (55%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	55.6	57.4	57.0
white irish	11.1	0.0	2.5
white other	0.0	1.6	1.3
black african	5.6	3.3	3.8
white & asian	0.0	1.6	1.3
indian	0.0	13.1	10.1
asian other	5.6	3.3	3.8
chinese	11.1	18.0	16.5
other ethnic group	11.1	1.6	3.8
TOTAL %	100.0	100.0	100.0

Looking at respondents at Nottingham, it can be seen that the largest ethic group was white British high, followed by Chinese and Indian. Within these ethnic groups there were more female than male respondents.

Portsmouth (77%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	14.3	29.0	24.7
white other	3.6	1.4	2.1
black african	0.0	18.8	13.4
white & asian	0.0	1.4	1.0
mixed other	3.6	1.4	2.1
indian	46.4	31.9	36.1
pakistani	10.7	4.3	6.2
asian other	7.1	5.8	6.2
chinese	7.1	0.0	2.1
other ethnic group	7.1	5.8	6.2
TOTAL %	100.0	100.0	100.0

At Portsmouth there were a large proportion of Indians amongst the respondents, and especially Indian men. White British were the second largest ethnic group, proportionally. There were also a relatively large group of black African females amongst the respondents.

Robert Gordon (73%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	23.5	40.0	34.0
white irish	41.2	56.7	51.1
white other	5.9	1.7	3.2
black african	11.8	0.0	4.3
pakistani	5.9	0.0	2.1
asian other	11.8	0.0	4.3
other ethnic group	0.0	1.7	1.1
TOTAL %	100.0	100.0	100.0

Amongst respondents at Robert Gordon, note the large proportion of white Irish.

Strathclyde (76%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	77.3	89.1	86.0
white irish	4.5	4.7	4.7
white other	4.5	0.0	1.2
black african	4.5	0.0	1.2
indian	0.0	3.1	2.3
pakistani	9.1	3.1	4.7
TOTAL %	100.0	100.0	100.0

As can be seen, there were a high proportion of white females amongst respondents at Glasgow – but unlike at Robert Gordon, these white females were white British rather than white Irish.

Sunderland (36%)

Ethnic Group	Male % within gender	Female % within gender	**TOTAL %**
white british	25.0	43.5	35.9
white irish	18.8	4.3	10.3
white other	12.5	0.0	5.1
black african	0.0	8.7	5.1
indian	25.0	21.7	23.1
pakistani	6.3	4.3	5.1
asian other	6.3	4.3	5.1
chinese	0.0	4.3	2.6
other ethnic group	6.3	8.7	7.7
TOTAL %	100.0	100.0	100.0

Looking at respondents from Sunderland, nothing very distinctive emerges: white British comprise the larges ethnic group, followed by Indians.