

University subject choice and discourses of decision-making amongst AS Level mathematics students.

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Background

This paper draws on longitudinal interviews with 32 6th form college students about their university and career choices and decisions (<http://www.lta.education.manchester.ac.uk/TLRP/index.htm>). The students had opted to take an AS Mathematics or "Use of Mathematics" course and were on a general education A Level programme. Specifically we consider how some of these students use cultural models and situated identities (Gee, 1999) to challenge and/or reinforce ideologies that maintain the status quo across particular social group identifications. We argue that cultural models often entail ideological values (van Dijk's, 1998) that serve to construct social groups and social identities, such as those defined by aspects of gender, ethnicity and class. Students' positions are maintained through various ideologies, which are understood to be sets of factual and evaluative beliefs (socially shared belief systems) that people acquire through accumulated experience and draw upon to help make sense of the world, and to engage in patterned social practices. Particularly pertinent in this analysis are students' culturally and historically situated discourses of decision-making about their educational choices.

This paper is motivated by an analysis of a 1700+ sample of students who mostly aspired to go on to a university degree who completed questionnaire surveys. Their subject interests scoped a wide variety of subjects. Nearly half the sample intended a degree in a STEM subject (Science, Technology, Engineering and Medicine). Normative subject choices were typically gendered and classed. However, differences in the distribution of subject choice were especially notable between students when grouped according to ethnicity, detected also in the inferential statistical analysis (Hutcheson et al, 2008). For example, Figure 1 shows that Asian or Asian British Indian heritage students were four times as likely as White British students to indicate a preference for "Business and Administrative Studies". Alternatively, Black African students were about six times as likely as White British students to express a preference for "medicine or dentistry", while Indian and Pakistani heritage students were five times as likely as White British students to express a preference for this same subject. Such trends are in line with existing literature (Ashworth & Evans, 2001; Bhattacharyya, Ison, & Blair, 2003; Siann & Gallagher, 2001).

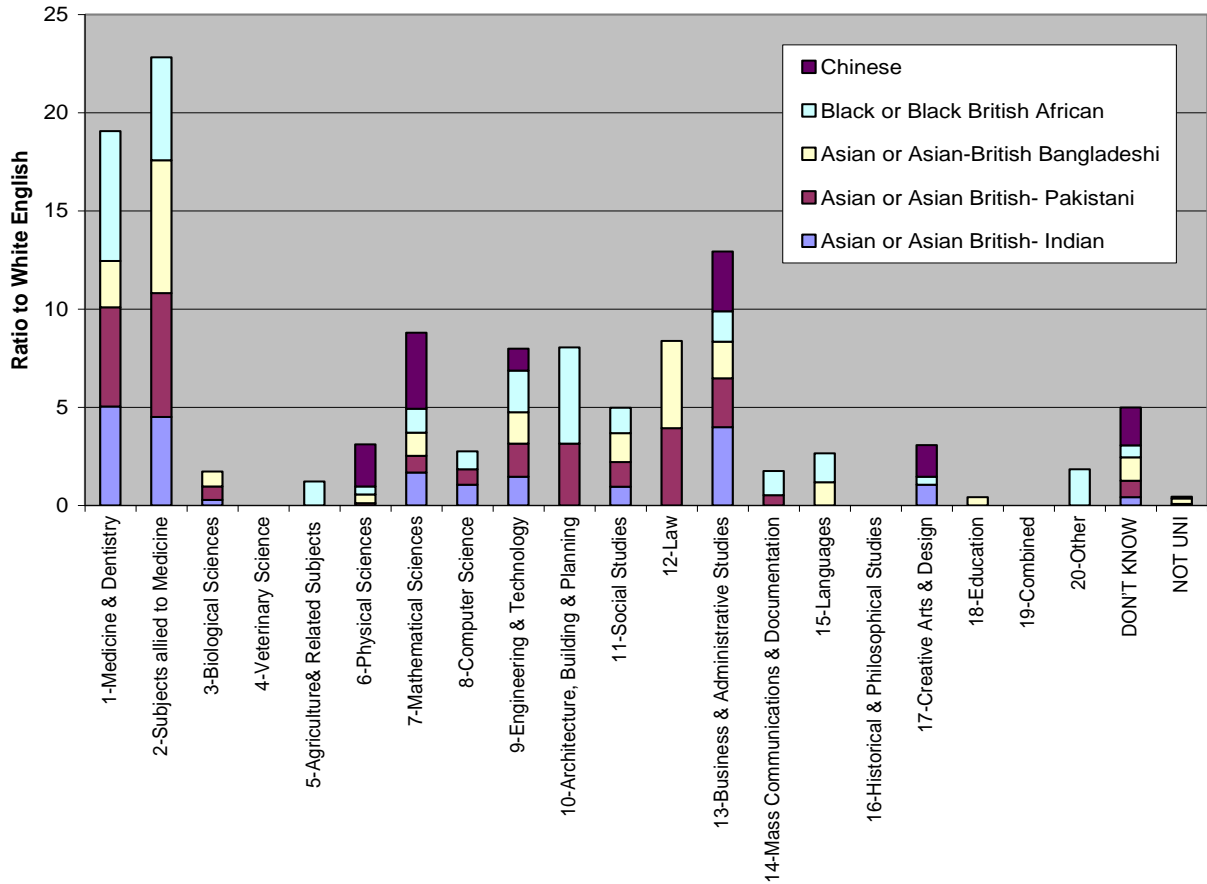


Figure 1: Likelihood ratio of a Minority Ethnic student intending on University Degree subjects in relation to White British students

When we compared subject choice with responses to an item about family expectations we found White British heritage students behaved differently to the other minority ethnic categories, which broadly speaking followed the same trends (Figure 2). Those other than “White British” students indicated strong family expectation for university, whereas for White heritage students the distribution of responses to this item was wider. In addition, notably “White British” students reported their family to be more likely to have ‘no expectations’ of them going to university.

This item was presented as a set of statements as shown below (also applicable for two similar items):

For the following statements, tick the statement that best describes you. Tick only one box for each set of statements.

B3. About my family expectations:

- My family generally expect that I **will** go to university
- Members of my family have different or conflicting expectations of me about going to university
- My family have no expectations about whether I will go to university or not
- My family generally expect that I **will not** go to university
- Don't know

We found that students who indicated a preference for certain “highly prestigious” degree subjects, e.g. medicine and dentistry, almost all also indicated family expectations for university, regardless of their heritage (thus, White British students who want to read medicine or dentistry also indicate family expectations of university). But, when we considered those who do not intend to go on to university, we found the reverse pattern, with students’ not intending on university associating with “no family expectations” or “expect I will not go”. This trend held across the data set, and was further cut by ethnicity. family expectations for “prestigious” subjects were recorded especially by minority ethnic students (see also Hernandez et al, (2008).

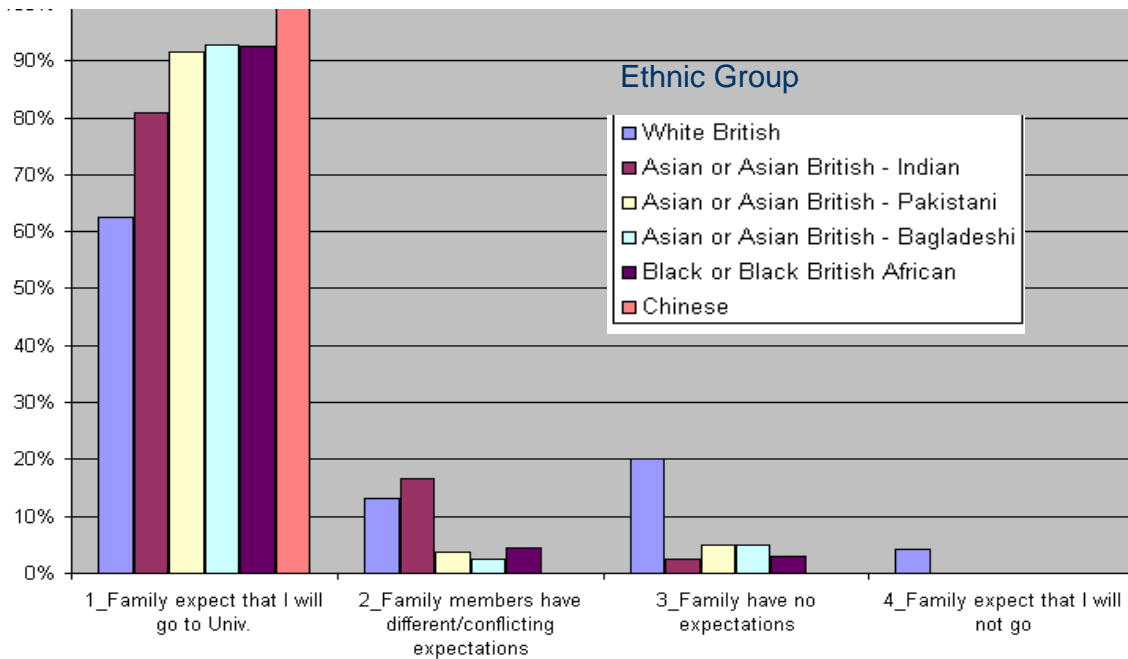


Figure 2: A bar graph of family expectations split by ethnicity

The remainder of this paper focuses on how decisions about university subject choice are mediated by cultural, ideological values as a means to offer some possible explanation of the above survey findings. This involves an exploration of how values were used by students in their talk about university subject choice, which often drew on two contrasting discourses of decision-making – individualistic and relational collectivist, to challenge or reinforce ideologies that maintain the status quo (with respect to preferred degree choice) across particular social groups, particularly with regard to Asian versus White British social groupings. These discourses will be explored during the presentation.

Methodology

The 32 interviewees were between the ages of 16 and 19, with the exception of one mature student. Most were from 1st generation to HE families, 15 were female, 18 were non-white, with a wide range of heritages: African, North American, Bangladeshi, Borneo, Brazilian, Bulgarian, Caribbean, Chinese, Columbian, East Asian, Ghanaian, Nigerian, Pakistani, Somali, and Ugandan, and 7 were recent immigrants to Britain. Participants were each interviewed on up to three occasions in order to capture their decision-making trajectories, once near the beginning of their AS year, once near the end of their AS year and one during A2. The semi-structured interviews focused on students past and present experiences of learning maths, how they chose their A level and degree subjects, their educational and career aspirations and the role of maths in their imagined futures.

Motivated by our exploration of the survey data on students' university subject choice, we were interested to examine cultural differences in values that might explain differences in subject choice trends, for example, whether we could find an explanation for the group of white British students who indicated that they did not intend to go to university.

In earlier work (Davis et al., 2008), we identified a number of cultural models (e.g. ideological values), which students had drawn upon repeatedly, either in conformity or in resistance, and used to present themselves in certain ways e.g. as a dutiful son. These included: "a woman's role is to support the family", "you have to play the game to get ahead", "it's in my bones/culture to become a....", "respect for elders", and various aspirational values. We now go on to consider how students used these ideological values to present themselves as certain kinds of people, e.g. as a dutiful son and/or as an ambitious young person, in order to justify their decision-making. We consider how use of, and even allegiance towards, certain ideological values (as brokered in different ways by significant others) is culturally influenced and demonstrate this by grounding analysis in the interview texts.

Cultural values, influences and degree subject choice

We found that minority ethnic students tended to draw on ideological values to do with the family as institution, or their "community" as a means with which to present themselves and justify decision-making about university, (e.g. as a dutiful son or daughter who follows parents wishes), whereas the White British students tended to present themselves as independent decision-makers.

For example, consider these extracts from two Pakistani heritage students: *You don't want to go away? "No, my parents say local.", Why is that? "Only child."* (Pakistani male, recent immigrant to Britain, Mohamad). Alternatively, *"No, it's ok, yeah, because Medicine is like ... one of the reasons why I chose Biology was because my Mum wanted me to go in Medicine, you know, she thought..", Your Mum? "Yeah."* (Pakistani female, Anupreet, recent immigrant to Britain). In the first extract the student positions himself as a dutiful son. In the second extract the student positions herself as someone whose decisions can be influenced by her mother. Moreover, there was open acknowledgement of cultural and family influences on their educational decision-making amongst the minority ethnic students, regardless of whether they chose to conform or resist particular cultural norms. This was a discourse that justified decision-making in relation to community and culture, and so facilitates articulation about cultural influences. For example:

MP: If you were a girl would you probably do something different?

Mohammad (M) : *Probably a doctor.*

MP: *Why, do you think girls are ..?*

M: *I don't know, in a family most Asian girls like to be doctors.*

MP: *Why is that?*

M: *I don't know. It's just that the family, they want them to do good.*

MP: *And they want them to be doctors?*

M: *Boys as well, doctors.*

MP: *The same, it doesn't matter.*

M: *It's the respect, you see. If someone's a doctor in your family, everyone respects you [the family]. And that's why they [parents] want their children to be doctors.*

MP: *So any other jobs that are respectful? Just doctors?*

M: *I think, mostly I've heard about doctors in my country.*

MP: *What about your decision, I mean, Accountancy? How do they see it?*

M: *It's respect in my family.*

Or alternatively, Manjit:

"Well it pushes me away from Pharmacy more, because I hate, I can't do Biology or Chemistry, I'm just terrible at it. I think the only reason they want me to go into that is because my little sister's

very, she's very smart and we're all expecting her to be a doctor and they all want me to go into that as well ... That kind of pushes me away from it. Like maybe you need a roof one day, so I'll be there." (female Pakistani heritage student who wants to be a mechanical engineer.)

On the other hand, while minority ethnic students chose to draw on a discourse that strongly frames (Bernstein) family or community social rules, White British students, tended to present themselves as independent decision-makers: for example, while Mohammad's understanding of the mediation of community based cultural social rules in governing subject choice were made visible to us, Lucy explicitly denied the relevance of family influences to her decision-making. We can perhaps infer that such social rules if they exist were invisible to her.

Interviewer: Were there any other influences? I mean you say your family, parents were encouraging you but anyone particularly pushing you for maths?

Lucy: No. Because it was my choice, what I wanted to do, so they just encouraged me on what I wanted to do. Not what anyone else wanted me to do ...

Interviewer: There's no one in your extended... sort of family and uncles and aunts and things like that...? So you've got one example that you feel is a bit discouraging maybe from going to uni?

Lucy: Well yes but... I just don't see why that affects me because this is their choice and this is my choice...

White British students often told us that their parents (just) wanted them to be happy or would be supportive of their decisions whatever they were "He [his Father] just says to me 'Whatever you do I'm happy with'" (Stephen, White working class- based on ACORN classification).

PHM: Now, about your decision to go into Veterinary. What do your parents think about that?

Sarah (White Middle class female): I think they're happy for me, whatever I'm doing. My Mum's very good; she'll support me in whatever I'm doing. Unless it's something really ludicrous or a bit silly. They'll really support me with it.

PHM: What would you consider ludicrous?

Sarah: Oh, I don't know. (Indistinct). No, she said she'll support me in whatever I'd choose to be honest.

PHM: And your dad?

Sarah: (Indistinct) whatever happens, so.

A discourse of "happy parents" was common amongst White students. However, such a discourse can mask possible unvoiced influences on students' decision-making, as were detected in the questionnaire survey sample, perhaps, precisely because in this discourse, alignment with an ideology, which centres around the individual as decision maker leaves little space for reflection on or articulation of the influence of others, given the obvious tension – "I make my own decisions, but I also do as I'm told". Sarah, like other middle class White students in our sample may have been influenced towards the acceptable "non-ludicrous" although there is not space to evidence this in this short version of the paper. If this is so, we suggest that such influence is exerted as part of a weakly framed but nonetheless persuasive discourse. Indeed, this individualistic "White" discourse acted to hide social differences in White British students' articulation of the cultural mediation of students' educational decision-making. Social rules were less clearly framed in their discourse when they were articulated, though class differences in the content of their talk in relation to the cultural mediation of university subject choice were sometimes evident when students were probed further, for example in terms of cultural capital, direction, and financial support.

For example, Craig (White British male, parents with professional careers) is encouraged and supported to achieve his goal (his choice) to become a vet. He earlier talked about his parents being "happy" but on additional questioning indicated their preference for university and veterinary science, which he describes as being "obvious":

“They don’t mind. They think it’s brilliant, yeah. I mean, going to university, my Mum obviously wants me to do that and she thinks it’s a brilliant opportunity and stuff and she keeps saying to me stuff like, if you want to stay and extra year, you stay an extra year. ‘Cos like I said, it’s one year of the rest of my life, you know what I mean? If I spend one year getting the grades I want and then get onto the course I want, then it’s only one year for me to get everything I want.”

On the other hand, Lisa (White working class) also draws on the discourse of parents being happy, but then indicates a different set of arguably classed relations:

Lisa: Um, my Mum, my Dad isn’t really too bothered. He wants me to do whatever I want. My mum didn’t really want me to go to university, and I don’t know why, I just don’t think she wants me to leave home.

MP: She doesn’t want you to leave home? What was she telling you?

Lisa: She said wants me to try to get an apprentice, you know in what I want to do, but you can’t really, it’s quite difficult to find, so, I just don’t think she wants me to leave home.

While Sarah and Craig may be steered seemingly invisibly towards a “good” choice, Lisa did not have such a towards university steer whether visible or otherwise. However, data for the White students is not always explicit, since analysis was primarily in terms of absence of talk, i.e. of what was not said.

Conclusion

We found a difference in the articulation of White and Asian students with regard to university subject choice. Asian students tended to draw discourses to do with themselves in relation to the family, and to articulate family cultural social rules in relation to their educational decisions, White British students tended to present themselves as autonomous individuals, with regard to their educational decision-making. Thus, there were two main contrasting cultural models used to position students as different kind of decision-makers: autonomous decision-maker (individualistic discourse) and culturally/community mediated decision-maker (community discourse). White British students tended to say little about how sociocultural rules mediated their decision-making. We suggested this “absence” of talk occurred precisely because they drew on an individualism, and that this then closes or reduces a discursive space, rendering discussion of family or community cultural historical influences unnecessary. We suggested that, some students, especially White British students sometimes ‘black box’ the processes of their decision-making, for example, when referring simply to parents being “happy” with their decisions. We suggested this can act to mask social differences with regard to cultural influences, as might exist, e.g. different sets of social rules that might play out in differently classed White communities, e.g. as evidenced in the questionnaire and interview samples. This suggests we may need to probe more deeply to learn about less visible social rules.

However, we have also drawn on a fairly large interview sample (in qualitative study terms) to confirm the difference between minority ethnic students and White British students in the distribution of perceptions of parental expectation for university that was detected in the larger 1700+ “quantitative” survey.

Policies for widening participation in certain subject areas need to have the capacity to take account of ideological values. We suggest that these ideologies play out in complex ways and that more research is needed in this area.

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