

Emotions or Science? Pre-tertiary males' accounts of psychology as a subject choice

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It is well established that the number of males studying psychology in the UK, both at A-level and on degree courses, is disproportionately low compared to females. There is a paucity of research, however, which discusses how psychology is viewed by this group. The present study employed focus groups with 35 pre-tertiary males (some of whom were studying psychology and some of whom were not) to discuss their perceptions of the discipline in terms of its scientific status and gendered associations with females. A thematic analysis revealed that participants positioned psychology as 'a sort' of science, with a diverse subject base, much of which was not considered appropriate or relevant for males to study. The implications of this are discussed in terms of the inherent challenges it reveals in attracting men to study psychology, debating what could be done to make the discipline more appealing to males.

Keywords: Males; studying psychology; pre-tertiary; subject choice.

OVER THE PAST TWO DECADES psychology has established itself as a popular discipline within the UK in both pre-tertiary, further education colleges and higher education. A rapid increase in numbers of students studying it illustrates continued appeal and growth; for example, Trapp et al. (2011) map Higher Education Statistic Agency (HESA) data for the total number of psychology students in the UK between 1998 and 2009. Comparison of these two time points reveal that in 1998/9 there were 37,584 students whilst in 2008/9 the number had risen to 77,530. Such numbers also represent a strong profile when compared to other discipline areas. The QAA benchmark for psychology published in 2007 described it as '...one of the most popular subjects in HE in the UK. It is the largest scientific discipline and the second largest discipline overall' (p.1). Whilst writing in 2011, Trapp et al. noted that intake onto psychology degrees was only being surpassed by students studying law and business.

However, it would be perilous to take such figures at face value, for they mask a wide gender divide. Of the 54,940 students sitting the A-level psychology examination in the UK in 2010, only 14,802 were male

(Smith, 2011). Estimates of ratios in HE show females outnumbering males by four-to-one on psychology courses (HESA 2005, Sanders et al., 2009). Trapp et al.'s (2011) comments below suggest that this trend might also be growing further (though it should be noted that they do not qualify the timescale covered by the term 'recent years').

'There is some indication that the proportion of males to females is altering, with more female students entering psychology programmes compared to previous years.' (Trapp et al., 2011, p.19)

This imbalance is not exclusively a UK phenomenon, but has also been observed in other countries where psychology is popular (Harton & Lyons, 2003).

How is psychology positioned?

Psychology is categorised as a science category by HESA, which ranked it as one of the most popular science based subjects in the UK during 2009/10. During that year only nursing and computer sciences attracted higher numbers of students. Its scientific status is also highlighted by the fact that it is listed as a STEM subject (science, technology, engineering and mathematic). The UK government is presently encouraging

individuals to train in STEM areas, as there is a shortage of STEM trained professionals. There is also a stark gender divide amongst those who study such areas (typically with females being under represented). Internationally research reveals that women are disproportionately represented in science, engineering and technology (Lynch & Nowosenetz, 2009). Psychology, in having scientific status, is, therefore, in an unusual position when one considers the direction of its gender divide. Given that males display a preference for science subjects (Miller et al., 2006), it might be expected that there would be a higher representation of male students on psychology degree courses. The figures cited clearly illustrate this is not the case. The way that psychology is positioned within some academic circles and by policy makers could be at odds with perceptions held by those outside of such circles (especially males).

Sanders et al. (2009) whilst exploring male first-year undergraduates' perceptions of their psychology course found that they labeled it as 'a girl's subject'. Participants attributed this partly to the fact that it was seen as a subject about feelings and emotions. Anyone knowledgeable about the undergraduate psychology syllabus might dismiss this as a misrepresentation, but it could offer one explanation of why male students are under-represented in psychology. Psychology is a multi-faceted subject incorporating a number of strands, which may be seen as differing in their gendered associations. For example, statistics more closely resembles mathematics and cognitive science can be linked in character to computing, all of which typically enrol more males than females (HESA, 2005; Kenway & Gough, 1998; Miliszewska et al., 2006; Nosek et al., 2002). In contrast we might argue that social psychology and developmental psychology could be aligned more with subjects allied to medicine or biological sciences and social studies, which have a higher proportion of female students. This diversity within psychology suggests that

it may be less easily labeled as either male or female; however, studies such as Sanders et al. (2009) and statistics relating to the number of females electing to study it, suggest that psychology is being viewed as a subject which has more appeal to women.

The way in which the discipline is viewed both by those studying it, the general public and even academics themselves has long been of concern (e.g. Furnham, 1983; Janda et al., 1998; Lilienfeld, 2012; Trapp et al., 2011). It is not just an issue which is relevant to UK psychology; in 1997 the American Psychological Society, in response to a growing number of studies which had revealed that the general public had little understanding of what psychology was, and sometimes negative views of the role of psychologists, began a public awareness campaign to highlight the value of the work conducted by psychologists (Farberman, 1997). A year later Janda et al. (1998) published findings from two studies which sought to determine how the general public and those who worked within academia perceived psychology. Both sample groups rated medicine, chemistry, physics and biology as having made more important contributions to society than sociology and psychology. The latter two subject areas were also perceived as requiring less expertise than the others listed. In this instance it seemed that both the general public and those involved in academia held more favourable impressions of the 'hard' sciences than the 'softer' ones such as psychology. The authors debated whether respondents who took part in their surveys were basing their views on stereotypes of disciplines rather than any knowledge of the subject content they may have.

Holmes and Beins (2009) asked 201 psychology undergraduates to complete scales to assess their scientific literacy and found that over time as the number of psychology modules studied increased there was a corresponding increase in their scientific knowledge. However, a similar trend was not revealed from scores based on

Friedrich's (1996) 'Psychology as a Science' scale. Despite having gained more scientific knowledge, participants were no more likely to rate psychology as a science.

A consensus on how psychology is positioned remains, it seems, elusive. Speculation about its status as a science continues to generate debate amongst contemporary authors. Lilienfeld (2012) notes that the public's skepticism about psychology's scientific status can be attributed to some degree to cognitive errors (e.g. hindsight bias) and a misunderstanding of the nature of psychological science. Perhaps more damning is the work of Brock (2011) who contends that it is a myth that modern day psychology constitutes mature science.

Two themes seem to be emerging here: the first relates to a mismatch between how psychology is categorised and how it is perceived. Although it can be labelled as a STEM subject, evidence suggests that it is not viewed on a par, in terms of its scientific status, with other disciplines which come under that umbrella. The second theme reveals that in common with other STEM subjects there is a gender divide in psychology. Psychology represents an exception here though with a trend in the opposite direction of attracting fewer men. Based on these two issues it seems a fruitful line of enquiry to try and establish how males themselves view the discipline in order to discover why it might be that the subject does not appeal to them. Lynch and Nowosenetz (2009) note that there is a paucity of research exploring how those involved in science subjects talk about their constructions of gender. Therefore, the purpose of this study was to engage in a qualitative enquiry to explore how pre-tertiary males position psychology. Specifically the research questions which drove the analysis were: How do males perceive the subject area in relation to any gendered associations? and How do males view psychology in relation to its status as a science?

Method

Design

Focus groups were used for data collection in order to encourage discussions on specific topic areas to emerge by building on the responses of contributors. As Wilkinson (2008) notes, this can frequently lead to more elaborated accounts than are typically generated in individual interviews. A focus group questioning route was designed specifically for this project, based on the guidelines of Kreugar and Casey (2009). The structure was facilitated by dividing the questions into four sections.

1. An introductory section – where the purpose of the study was outlined and participants were asked to give their names and consent to taking part.
2. A key question section – comprising three key areas of questioning around: choice of subjects, how subject areas in general are perceived and perceptions of psychology.
3. Ending questions – having gathered their perceptions about the discipline, these questions informed them of some facts about psychology being a science subject and more popular with females – their views on this were then elicited.
4. A closing question – asking if participant wished to add anything else and to provide the opportunity to ask any questions about the study.

Questions and possible prompts were provided for each section, though these were used flexibly to allow for any participant-led discussions to be pursued if considered relevant to the study's aims. Both questioning routes comprised the same sections and questions apart from the key question about perceptions of psychology. For those not studying the subject their accounts of why they had not taken psychology were explored. Those who were studying psychology were asked about their perceptions before taking the subject and if these had changed in any way.

Participants

Thirty-five participants were purposively sampled from males in their A2 year of A-level study. Seventeen were studying psychology as one of their A-level topics, whilst the remaining 18 were non-psychology A-level students. They were drawn from three different locations: a comprehensive school in South Glamorgan, a further education college in the West Midlands and a comprehensive school in Gloucestershire. In each centre two groups were identified by a member of staff who had initially been contacted by the researcher. Information about their ages was not collected, but those in schools would have been either 18 or 19 years of age.

Procedure

Prior to commencing the data collection the study was approved by the ethics panel at the university where the first author works. The focus groups took place in a room in the school or college where the participants studied at a time which was deemed convenient by the member of staff organising the sessions. The size of the groups ranged between four and seven participants, and comprised either those studying psychology or non-psychology participants. Audio recordings were taken of each interview, which lasted between 20 and 40 minutes. Once collected the data was transcribed using a professional transcription service.

Method of analysis

The data was analysed using an inductive thematic analysis (Hayes, 2000). Transcripts were downloaded into NVivo 9 to help organise the files and process of analysis. Initially the transcripts were read a number of times, noting any common ideas which seemed present in the males' narratives. These were placed into broad categories, described by Hayes (2000) as proto-themes. Proto-themes are emerging themes which will evolve and change as analysis continues. Initial definitions of each were written, supported by the extracts from NVivo.

A second member of the research team read the proto-themes and illustrative extracts at this stage to check that they were a fair representation of the interviews. The two researchers then discussed the proto-themes and their own accounts of the key ideas which were beginning to emerge in relation to the research aims. Researcher one then returned to the data, re-reading the categorised verbatim quotes. At this stage the proto-themes were refined and actual theme labels were assigned to the data. This was done concurrently whilst writing descriptions of each theme and commentaries about the illustrative and supporting extracts. Finally a draft version of the themes and their commentaries was read by the second researcher to check their authenticity.

Findings

This research is based on the findings from a larger Higher Education Academy (HEA) funded project entitled 'Exploring the roots of male (dis)engagement in psychology' (Mercer et al., 2011, the full report of which can be found on the archived HEA Psychology network website). Five themes were identified within that; however, for the purposes of this article two will be discussed in depth: *Gendered accounts of discipline areas* and *Psychology as 'a sort' of science*. In accordance with the aims of the present paper they provide insight into how participants position the discipline in terms of both its scientific status and any perceived gendered associations.

Themes are outlined below, and supported by verbatim quotes from participants. Quotes appear in *italics*, with a new line indicating when a different person spoke. The facilitator's comments and questions appear in **bold italic** font. The different groups can be identified by a coding of either A2 (for those studying psychology), or NP (which represents the non-psychology groups).

Gendered accounts of discipline areas

As an orienting task in the focus group participants were asked to locate the subjects they were studying at A-level on a scale of 0 to 10 with 0 representing the most male and 10 the most female. The most common responses for subjects perceived to be more female were art, health and social care, drama and English. The perceived male areas were business studies, maths, IT and science subjects (such as chemistry and physics).

Having reflected on the subjects they took they were asked to discuss where they would position psychology as a discipline. For many, psychology was aligned with femininity:

A2 Gp3: But what actually makes it really feminine?

More like, feelings and stuff I reckon.

Yeah.

The content is like, sort of the views like in health and social, it's something that they would practically use, there's no point a male doing it really

Yeah.

It's a stereotype sort of thing. Isn't it?

It is of note that this extract comes from a group who have been studying psychology for over a year. One would expect them to be aware of the breadth of topics covered on the syllabus, yet still it is being likened to the discipline of health and social care, and acknowledged as having a gendered stereotype. The idea that there is 'no point' in a male studying the discipline is highly concerning.

Another group, when asked if they thought it was a fair perception that psychology was a feminine subject, stated:

A2 Gp1: Probably everything we do is aimed at females.

Later elaborating further:

...if you do physics it's based all around the world. Psychology is more our emotions and that, it's more of a feminine idea.

Emotions were also highlighted by a non-psychology group who made the following comments about the differences between males and females in appropriate disciplines to select:

NP Gp3: ...it's about like, as he said, your brain and like deep thought and stuff and I don't think boys choose deep thought and girls have more emotions, so they just think about deep thought and the mind more, so I don't think it would appeal to boys as much because of that reason.

Okay.

Girls probably have more sort of thinking skills, sort of deep thinking as [participant's name] said because of –

More emotions.

– yeah, because a boy wouldn't probably indulge in the thinking, just write it down straight away and move on I suppose.

I think psychologically women are more, like caring than men I think, so the psychology might appeal more to the women than the men.

Whilst the group above could be excused for not having a knowledge of the psychology, stereotypes about differences between males and females in terms of how they think and general dispositions were plentiful. The other extracts came from males who have experience of the discipline. The idea that they should focus on the topic of emotions (which is not central to the A-level syllabus) seems puzzling. Yet one wonders if an external perception of psychology is driving the gendered stereotypes they refer to, rather than drawing on any discipline specific knowledge. This is suggested in the following quotations:

A2 Gp: I think it's the way that society has made it. Because if you think that like..., we go by what we see..., consider as normal, not what..., then society makes physics more male dominated and more like..., something that you see as male, then it becomes a more male subject, whereas drama, if you think of... you'll think of like dancing around you don't think of it as a male thing.

Similarly another participant stated:

NP Gp3: I think a lot of it is how the subject is like, perceived in general by like, society, in that that sort of affects how you see things when you are brought up.

Further discussions illustrated how gendered views about disciplines can also impact on the way individuals might be perceived. One participant who was studying psychology labelled males on his course as 'more effeminate':

A2 Gp 2: ...motor vehicle kids are all masculine and macho. And like for us who are kind of more effeminate they can always take the pee out of us and things.

Whilst another participant in a non-psychology group who recounted how he enjoyed english stated:

NP Gp 1: ...Most of my friends do do more scientific subjects, but, I don't know, maybe I'm a freak but that's just the way it is.

For both these participants there is a sense that not conforming to stereotypical male subjects makes them different. Perhaps gender stereotypes represent a form of pressure to elect to study specific subjects. As this participant points out:

A2 Gp2: If you look at the subjects you're probably going to get more peer pressure because you're not going to get a guy doing, what's it called? Child development. You look into that class it is all females so I think that the way people look at subjects is very... there's not really a lot of leeway...

Perhaps it is not surprising in such an environment that males could be driven by the stereotype rather than the content of the course. Even those males who have bucked the trend and taken psychology appear to see themselves as doing something which is aimed at women. This leaves them potentially open to ridicule from other males.

Though many positioned psychology as a subject for females rather than males, one member of this non-psychology group had a more balanced account of the discipline:

NP Gp3: Because I think the whole point of psychology is that it's to do with everything, like about the brain and stuff. It's not just like the more female side of things, so there are male and female aspects in, that you look at in psychology, so I think that would appeal to both sort of equally.

In direct contrast to the comments outlined earlier, some members of the second psychology group did view it as more masculine:

A2 Gp2: Psychology I put for number 3 which is quite male dominated.

So what makes you think that?

It's like the crime and the profiling, that kind of section of it which, like [pupil's name] said, more men are policemen and more men are prison officers and stuff like that.

When asked by the facilitator to elaborate further on the source of this:

So what gives you the perception of it being more male dominated, where are you getting that information from?

Like men are more likely to commit crimes than women.

And if you look at the case studies as well, what we're studying, it's like only a few women but I would say the majority are men, kind of research.

Okay, thank you.

I put psychology as being extremely male.

Extremely male?

I don't know why, I just think you look at it and it just screams male to me. I mean, I've put history as being female because I think you need to do so much more leg work in history whereas psychology you're looking at it and analysing it more and I think males analyse more things. That's why more police officers are men and more females look at art and sort of things and dance. I don't know, I just think that men look at things more analytically than females.

However, although these participants are labelling it as more masculine, their reasons are still focused around differences between males and females here in the ways they think, which are not dissimilar to the earlier comments cited by those who thought psychology was more feminine. Views about differences between how women and men think about subject disciplines and analyse information became salient features of the discussions.

The emphasis on science as a male dominated subject was also supported by the scale exercise. The extract below, in relation to physics, illustrates how for some participants science (or science based subjects) is not perceived as appealing to females:

NP Gp2: It doesn't appeal to women, because like, at the end of the day it's because it's all about how stuff works and, everything..., hard to explain. I think it's sort of more that it's like, the sort of thing that girls are more interested in, like, the people and bodies and that sort of stuff, in my experience, so I think it's just that it's less focused on what they are interested in.

As discussed in the introduction psychology is classified as a science subject, thus another important avenue to explore for this project was how the discipline was perceived in relation to science.

Psychology as 'a sort' of science

The title of this theme was drawn from the comment below, which seemed to encapsulate the way in which participants discussed psychology's status as a science:

*A2 Gp2: Were you both aware, do you see it as a science psychology?
I see it as a sort of science.*

For some only certain elements of the discipline demand scientific status:

A2 Gp2: Mmm, certain parts of it, like I see the biological side of it, obviously there's science in there. Health in psychology, I see that as a science.

Forensic aspect, I see as less of a science. It differs depending on what approach you take in what you're looking at.

So it's the approach that they take in those different subject areas?

Yeah.

Here the breadth of psychology is highlighted. However, it was the biological strand of the discipline was raised on a number of occasions. But as this extract reveals, the link with biology (a core science subject) does not make it any more masculine, as it is linked to the soul:

NP Gp3: ...I would say it's the soul section of biology, or more in depth biology.

The idea of why it was only considered a sort of science is developed further by this group:

NP Gp3: Do you think that psychology is a science?

It's a kind of science.

Kind of, because it's...

It isn't your sort of stereotypical laboratory type science, but it is still a science in that you research and try and find out more about things, which is basically the essence of what science is, isn't it?

So although participants did not reject the idea of psychology as a science it was not given the status of a 'proper' laboratory science.

NP Gp2: I think it's down to the fact that it isn't perceived like the other sciences, you know, like we were saying, just because it sort of apart from them, looking at the different side of research and things like that.

Discussion

The findings reveal that participants hold a variety of views about how the discipline of psychology might be positioned. Essentially it was not considered as a science subject on a par with physics or chemistry (which appeared to be the gold standard). Although much of the experimental research

conducted within psychology is laboratory based and research methods focus heavily on the syllabus, like Janda et al.'s (1998) participants, the status of psychology here was seen as being less prestigious, summed up by the terms 'a sort of' and 'kind of' science. This concurs with much of the research cited in the introduction, and leads one to conclude that such a view is not exclusive to males. However, as revealed within the theme entitled 'Gendered accounts of discipline areas' being a male studying a 'soft' science can have negative connotations and might represent a contributory factor to why many males elect not to pursue an academic qualification in this area.

Strong notions of difference between the sexes were also highlighted within this theme. Gendered associations were made in relation to interests in topic areas (e.g. feelings and emotions), ways of thinking about topics (with females being considered deeper thinkers) and general dispositions (such as being more caring); when taken together these provided a rationale for why it was more appropriate for females to engage with psychology. Whilst many of these ideas seem to be rooted in stereotypes rather than fact (for example, psychology is not all about emotions and feelings) such notions of difference had been internalised not just by those outside of the discipline. It appeared that those who were studying psychology were just as likely to exhibit such belief systems. This resonates with the statements made by the male psychology students in Sanders et al. (2009) study, and also mirror the findings of Lynch and Nowosenetz (2009). These authors, when considering how gender was constructed amongst those taking science, engineering and technology (SET) subjects, found that careers in this area were perceived as men's work and unsuitable for women. Participants of both sexes were interviewed, yet it was found that the females also constructed the discipline in this way despite electing to study it. Similarly, in the present study a male participant labelled himself and fellow students taking

psychology A-level as 'more effeminate' when compared to males taking more 'macho' subjects. It seems that knowledge of a subject does not provide immunity from internalising gendered stereotypes.

Overall these findings are concerning for anyone wishing to address the gender imbalance in psychology. Altering stereotypes is not easy. Gardner and Dalsing (1986), writing about college students' misconceptions of psychology, contended that many false beliefs had been learned from the media and parents. However, these beliefs had become a part of their 'conventional wisdom' which, they argue, are then resistant to change even if evidence to the contrary is presented. Nearly 30 years later such 'wisdom' still appears to exist! In the present study it was revealed that the ways in which disciplines were positioned by friends, peers and society all contributed to an awareness of the type of subjects males and females 'should' be studying. This raises the question of how one attempts to dispel the gendered stereotypes which seem to have become associated with psychology as a discipline area, together with the view that psychology is some type of pseudo science. Anyone involved in teaching and promoting psychology as a career choice is faced with a huge challenge in convincing males that psychology could be of relevance for them.

What could be done to promote psychology to males?

It has been established within this article that presently the status of psychology as a science which will attract males seems dubious. In 2011 a report called 'The Future of Undergraduate Psychology in the United Kingdom' was written collaboratively by representatives of the British Psychological Society (BPS), the HEA and the Association of Heads of Psychology Departments (AHPD) (Trapp et al., 2011). In it the dominance of natural science based work undertaken in the field of UK psychology was acknowledged, as was the heterogeneity of the discipline which necessitates drawing on

wider methodologies and research paradigms. To argue that psychology has the same status as other natural sciences would be futile and one might argue that its wide knowledge base hinders its status as a science and leaves it lacking coherence. However, an alternative line of reasoning is to view the breadth of the subject as one of its strengths, providing those who study it with training in a range of academic skills. Trapp et al.'s (2011) team argue for adopting a wider definition of the term science. This would involve going beyond the definition of the natural sciences but also to stress:

'...the added value of psychology as a subject that offers 'STEM plus' skills for students and graduates (e.g. as including numeracy, empirical research skills, ethical awareness, literacy, historical awareness and interdisciplinary team-work).' (Trapp et al., 2011, p.8)

It is interesting to note that this approach still retains an association with the natural sciences for psychology, but also incorporates additional skills, rather than in engaging in an dichotomous either/or (i.e. it either is or is not a science) type debate. Perhaps more vigorously marketing it in such a way could raise its appeal with males.

There is no guarantee, though, that this would convince males that psychology was not about feelings and emotions. Maybe there is a need for a targeted marketing drive aimed specifically at attracting men to psychology which focuses on areas which more typically appeal to males. As stated in the introduction, statistics closely resembles mathematics and cognitive science can be linked in character to computing, all of which currently enrol more males than females. Is it time to actively dispel the myths about psychology being predominantly about emotions, therapy, and topics of more interest to females? Areas such as neuropsychology, cognition, statistics and the use of experimental methods and writing of research reports might be highlighted more in an attempt to offer a course which has a more masculine feel.

A more radical idea would be to look at the structure of university courses and offer more flexible routes for psychology degrees which comprise of the different 'gendered' strands. If we consider another female dominated subject, medicine, research suggests that while the subject as a whole may be stereotypically considered as female (Mastekaasa & Smeby, 2008), the diverse pathways offered by these courses allow genders to identify those sub areas which most interest them, for example, women specialising in paediatrics and men in surgery and orthopaedics (Figueiredo et al., 1997). Graduate Basis for Chartership regulations from the BPS give students little leeway to tailor their focus to specific subjects. They are required to have completed a syllabus covering sub-discipline areas of psychology categorised under the following five core domains: individual differences, social psychology, developmental psychology, cognitive psychology and biological psychology. It may be suggested that this syllabus seeks to emphasise a breadth of knowledge of a number of core areas. Stewart (2010) reported on the intention of the AQA to offer more gender-specific GCSE science programmes from 2011. The emphasis here is on different assessment strategies, based on the claim that males do better at exams and females course work. Should higher education be following such a model in order to encourage more male participation? This clearly would involve a major restructuring of the curriculum and might be considered by some as a step too far.

A further avenue to explore is to use more inclusive images when marketing psychology. The Department for Education have compiled the Equality and Diversity Toolkit for STEM related subjects, which offers resources aimed at promoting equality in a number of areas including gender (cf www.stem-e-and-d-toolkit.co.uk). As one would expect, based on the fact that it is typically females who are under-represented in STEM subjects, the resources tend to be aimed at promoting females into disciplines,

however, there is no reason why publications such as *Postcards from the future*, a comic book which provides information about the wealth of opportunities STEM careers have to offer for women, could not be revamped for psychology and aimed at a male market. The toolkit has many examples of posters with images of women in what would typically be considered male jobs. Again there is no reason why posters relating to careers in psychology could not be designed using male role models. Presently the BPS produce posters detailing a range of different career paths, using sound bites from 'real life' people who work in the fields. However, female images seem to prevail here, for example the promotion of teaching and research in psychology has two images, both female, and a quote from a woman working in a London-based university. Neuropsychology (which one might consider more representative of the science subjects which the sample identified as appealing to men) is represented by an image of a brain and a picture of a woman, with a female neuropsychologist based in a hospital providing the sound bite. Whilst these are 'real life' examples of a female dominated subject, surely examples of men who work in the field could also be found to promote the discipline?

It is acknowledged on the website which houses the STEM equality and diversity toolkit that some areas and disciplines had been more commonly researched than others (psychology, for example, does not feature heavily on information about STEM subjects on their website – although it is included), however, it is contended here that approaches such as using positive role models and inclusive images are relevant for all equality groups. As previously highlighted, altering deep rooted stereotypes is a big task. Recent studies by Betz and Sekaquaptewa (2012) into promoting gender science role models amongst young girls found that gender positive images which were too feminine had little effect in attracting those not interested in science. It seemed that the 'girlie', overtly feminine

images selected of women dressed in pink, wearing make-up and reading fashion magazines, were so at odds with participants' perceptions of those who might be involved in the subject that they did not appeal as role models. Yet, the aforementioned study was published in the *Journal of Social Psychology and Personality*, indicating that within psychology we have the knowledge to consider how to address such issues. Perhaps it is time to draw on our own expertise which is often applied to other settings (e.g. psychological knowledge used in health promotion campaigns) and look at how we could use them to help our own discipline.

The thrust of this discussion has been that addressing the gender imbalance is unequivocally a positive thing to do. It must be acknowledged that one consequence of making the discipline more attractive to males could be making it less attractive to females. There is no guarantee that the marketing strategies suggested above will attract more males, and in this scenario could be counter-productive. It may also be argued that having a science based discipline which is more popular amongst female student is not a bad thing; it can provide a vehicle for an engagement with science amongst young women and go some way to balance the difference in the uptake of science based courses by males and females. However, the theme of the Division of Academics, Researchers and Teachers in Psychology inaugural conference at which this research was originally presented was 'student engagement in a changing economic climate'. Engaging males in such a climate might be essential. Whilst numbers studying the discipline have remained healthy to date, the impact of the changed funding arrangements and higher fees which the majority of new UK undergraduates incur in the 2012/13 academic year is yet to be established. We cannot sit back and assume psychology will remain a popular subject. We could need to up our game in promoting it, and in doing so actively consider male populations. Converting

males might be a crucial part of the admissions role for psychology courses in the future. Some ways in which this might be done have been discussed here. Attempting to understand how males perceive the discipline, the very premise of this piece of research, appears an important first step if seeking to do this.

Conclusion

At one level this research makes depressing reading for anyone concerned about the gender imbalance which permeates contemporary psychology. The research questions that drove the analysis: 'How do males perceive the subject area in relation to any gendered associations?' and 'How do males view psychology in relation to its status as a science' revealed that the on the whole males view it as a subject with high female appeal and low scientific status. The answer to the question asked in the title of this paper 'emotion or science?' would, it seems, be emotion. Whilst findings need to be contextualised in terms of only looking at pre-tertiary males, males at this stage of their education are making decisions about university courses and future training. They represent potential psychologists of the future. A sample of 35 is relatively small and one would be cautious when making any generalisations, however, the findings do support a host of other studies in related areas which leads us to conclude that the messages from the present study should be taken seriously.

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