Applying for professional doctorates in Clinical Psychology in the United Kingdom: Reflective report on academic credentials

The effect of sleep on the consolidation of memories with future relevance

School-ready: Conceptions, definitions and measurement

Also in this issue:
A brief introduction to using Bayesian statistics in your thesis
Hints and tips: Practical challenges of testing participants with rare disorders
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www.researchdigest.org.uk/blog

‘Easy to access and free, and a mine of useful information for my work: what more could I want? I only wish I’d found this years ago!’
Dr Jennifer Wild, Consultant Clinical Psychologist & Senior Lecturer, Institute of Psychiatry

‘The selection of papers suits my eclectic mind perfectly, and the quality and clarity of the synopses is uniformly excellent.’
Professor Guy Claxton, University of Bristol
HELLO AND WELCOME to the 98th issue of PsyPAG Quarterly! As we are starting a new year, I thought it would be fitting to explore the many avenues through which psychology can be pursued and applied. As such, we have packed this issue full of exciting material to inspire you for research and practice in 2016.

We start with Dr Jan Smith’s reflections on and summary of the admissions process for professional doctorates in psychology in the UK, where useful tips for aspiring clinical psychologists are provided. This is followed by two highly insightful discussion papers: Elaine van Rijn discusses her work on the effect of sleep on memory consolidation, focussing particularly on memories that are consolidated for the future, and Lindsey Carruthers provides an overview of the relationship between attention deficit hyperactivity disorder (ADHD) and executive function, and ADHD’s impact on life. On a relevant note, Emma Lough provides useful hints and tips on how to deal with the challenges surrounding recruiting and working with participants with rare conditions.

What’s wonderful about the Quarterly is that we have such a diverse group of contributors and postgraduates who are going places, as seen in the three conference reviews within this issue. Helen Staff reviews the British Psychological Society’s Annual Conference held in Liverpool last May, Rebecca Lee reviews Rheumatology 2015 held in Manchester, and finally, Nicholas Sharratt reviews the International Conference of the Impact of Appearance in our Society, held in Sweden.

As I have mentioned, this issue is about gearing postgraduates up for 2016 in various ways. Phillip Ulrich shares his top tips on organising and maximising academic visits, whilst Alice Mason introduces Bayesian statistics as an alternative to the well-known Null Hypothesis Significance Test. To add to this are two more thought-provoking discus-
sion papers; one on the construction, operationalisation and measurement of being ‘school ready’, by Nikhil Darshane, and one on the visual processing of human bodies as a distinct process to visual face processing by Katie Groves. Also, Arun Verman provides a review of ATLAS.ti, a qualitative data analysis tool, for those wishing to try new software this year.

This issue closes with Lauren Roche’s interview of clinical neuropsychologist Dr Anne Abey, who has creatively applied psychology to impact on health. I believe that this nicely wraps up this issue, having started with tips on how to pursue a clinical role. Finally, we signpost you towards a corrigendum to correct information provided on pages 14 to 19 of the 76th issue of the Quarterly.

I am sure that this issue will have something for everyone, and as ever, big thanks to all of you who make the Quarterly possible! I would also like to take this opportunity to congratulate Charlotte Pennington for leading a well thought out Social Psychology special last December 2015, which was so well received. If you would like to see more themed issues such as our recent Social Psychology special, or have any other suggestions and comments, please do get in touch via email or Twitter. Of course, your submissions are always most welcome. I hope that our readers enjoy reading this issue as much as I enjoyed putting it together!

Ryc Aquino
On behalf of the PsyPAG Quarterly Editorial Team.
HELLO AND WELCOME to the Spring 2016 issue of the PsyPAG Quarterly!
I trust you are all well-rested from the Christmas break and are looking forward to a productive 2016. I’d like to congratulate Charlotte Pennington on Lead Editing a brilliant Social Psychology special for the December 2015 issue of PsyPAG Quarterly. If you haven’t read it yet, be sure to do so via our website: http://www.psypag.co.uk/quarterly/.

I’d like to first reflect on the successes of 2015 as our 30th Anniversary Year. Firstly, we enjoyed a brilliant 30th Anniversary Conference at University of Glasgow, principally organised by Niamh Friel. With many alumni attendees and our largest ever number of abstract submissions, this was a truly memorable event. Secondly, we successfully launched our PsyPAG book, A Guide for Psychology Postgraduates: Surviving Postgraduate Study. This has been posted free of charge to UK psychology postgraduate departments across the UK and can also be downloaded here: www.psypag.co.uk/psypag-book/. Additionally, we continued to grow our social media presence and bursary applications, financially supporting more postgraduates with their studies than ever before.

We are currently very busy preparing for PsyPAG’s 31st Annual Conference at University of York on 27–29 July 2016. This is our flagship event where approximately 170 delegates over the three days come together. Confirmed keynotes include the leading memory researcher Professor Alan Baddeley (University of York) and Professor Daryl O’Connor (University of Leeds). As ever, we will also be hosting a range of social events, including a conference dinner at the Hilton Hotel in York. I am pleased to announce that we will be joined by the Trainee Conference on 28 July: bringing together postgraduates and trainees for the first time. The conference is a fantastic opportunity to network with other postgraduates and present your work to a supportive audience.

Online conference registration and abstract submission is now open at our conference website: https://psypag2016.wordpress.com/. Early-bird registration rates close on 25 March with registration closing on 29 June 2016. The deadline for workshop applications for the conference closes on 6 March. International bursaries for the conference close on 29 April and UK bursaries close on 27 May. Make sure to put these dates in your diaries! We look forward to receiving your submissions.

This year we will again be hosting a stand at the British Psychological Society’s Annual Conference, 26–28 April 2016 at the East Midlands Conference Centre, Nottingham. Please pop over and say hello and find out how PsyPAG can support you. We also attended the Psychology4Graduates event in London in December 2015 and really enjoyed meeting a range of students.

Would you like to organise a workshop to support postgraduates? Our Workshop application scheme is always open for new applications. We funded some brilliant workshops for postgraduates in 2015 including ‘Negotiating the PhD’; running in Glasgow, London and Oxford, hosted by us and the BPS Psychology of Education Section. Please see our website for more information: http://www.psypag.co.uk/workshops/. Also, consider applying for our bursaries, which are a great way to supplement conference attendance, research funds etc. (http://www.psypag.co.uk/bursaries-2/).
As ever, thank you to the Society’s Research Board for their continued support and the PsyPAG committee for their hard work and commitment to supporting UK psychology postgraduates. I look forward to meeting many of you at our Annual Conference in July!

Emma Norris
PsyPAG Chair
Email: chair@psypag.co.uk
Twitter: @PsyPAG @Ef_Norris

PsyPAG 31st Annual Conference
Affairs Group Conference
27th – 29th July 2016

University of York

Abstract Submission and Registration is Open
Early Bird Deadline: 25/03/16. Abstracts Deadline: 27/05/16

Keep up to date on twitter and at
http://www.psypag.co.uk/conference/


Discussion paper:
Applying for professional doctorates in Clinical Psychology in the United Kingdom: Reflective report on academic credentials

Dr Jan Smith

Places on clinical psychology doctorates in the UK are known for their intense competition. Academic excellence typically constitutes an important prerequisite for clinical training. This paper profiles academic entry requirements outlined by 30 UK universities offering the professional doctorate in clinical psychology (DClinPsy) for 2016 entry. Findings indicated that a high proportion of universities emphasised undergraduate academic excellence, whereas others outlined more diverse academic eligibility criteria for clinical training. This paper includes reflections underpinning applicants’ academic background and recommendations for aspiring clinical trainees and the psychology profession.

Doctoral courses in Clinical Psychology (DClinPsy) remain one of the most competitive graduate career options for Psychology students in the UK (Scior et al., 2014). Table 1 shows only 15 per cent of applicants applying to DClinPsy courses in 2014 successfully obtained a place on the course (Clearing House, 2015a). High numbers of applicants applying for each DClinPsy place have led to intensive selection procedures for clinical training, with some courses requiring strong performance in computerised or written tests as part of the shortlisting process (Scior et al., 2014).

In the UK, research suggests an applicant’s undergraduate degree classification remains one of several important predictors of successfully obtaining a DClinPsy place (Scior et al., 2014). In the 2013/14 academic year, most psychology graduates obtained a 2.1 classification (58.1 per cent, 9775 students) compared with 21.1 per cent gaining 2.2s (3535 students), 16.8 per cent with firsts (2820 students), 2.8 per cent with thirds or passes (465 students) and 1.3 per cent with unclassified results (215 students) (UK Higher Education Statistics Agency, 2015).

Despite potential biases and discrepancies with undergraduate final classifications (c.f. Heritage & Thomas, 2007), many UK graduate employers and admission criteria for courses such as Doctor of Philosophy (PhD) and DClinPsy specify a 2.1 (or above) as a desirable or essential entry requirement (Bourner, Bowden & Laing, 2001; Scior et al., 2014). Table 2 focuses on eligibility for DClinPsy courses and summarises rationales for implementing a minimum 2.1 criteria and rationales for accepting candidates with 2.2s and additional postgraduate qualification(s) (Barkataki, 2010; Roth, 1998).

Research suggests that life chances, opportunities and entry onto graduate pathways may be limited for graduates with 2.2s in comparison with candidates with higher undergraduate classifications (Seaton, 2011). Evidence from DClinPsy courses similarly suggests a low proportion of DClinPsy trainees with 2.2 undergraduate classifications, given 8.4 per cent (eight out of 95) candidates with 2.2s obtained DClinPsy training places in 1997 (Roth, 1998) and two DClinPsy trainees with 2.2s from the 2005 and 2006 cohorts (Hemmings & Simpson, 2008).
Table 1: Applicants for NHS funded places on UK clinical psychology doctorates (2009–2013; Clearing House, 2015a).

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of applicants</th>
<th>% change from previous year</th>
<th>Number of Places</th>
<th>% change from previous year</th>
<th>Success rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>2342</td>
<td>+1%</td>
<td>623</td>
<td>+5%</td>
<td>27%</td>
</tr>
<tr>
<td>2010</td>
<td>2969</td>
<td>+27%</td>
<td>617</td>
<td>-1%</td>
<td>21%</td>
</tr>
<tr>
<td>2011</td>
<td>3528</td>
<td>+19%</td>
<td>569</td>
<td>-8%</td>
<td>16%</td>
</tr>
<tr>
<td>2012</td>
<td>3857</td>
<td>+9%</td>
<td>586</td>
<td>+3%</td>
<td>15%</td>
</tr>
<tr>
<td>2013</td>
<td>3725</td>
<td>-3%</td>
<td>594</td>
<td>+1%</td>
<td>16%</td>
</tr>
<tr>
<td>2014</td>
<td>3796</td>
<td>-2%</td>
<td>583</td>
<td>-2%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Table 2: DClinPsy entry and undergraduate classifications – 2.1 minimum versus 2.2 and postgraduate qualifications.

<table>
<thead>
<tr>
<th>Minimum 2.1 requirements</th>
<th>2.2 and higher academic qualifications is sufficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why a 2.2 is not enough</td>
<td>Required capacity to complete academically demanding doctoral level study.</td>
</tr>
<tr>
<td></td>
<td>Not just about academic merit, importance of clinical skills including empathy and rapport development.</td>
</tr>
<tr>
<td></td>
<td>Generous marking university grading criteria.</td>
</tr>
<tr>
<td></td>
<td>May skew the demographics of the profession and limit diversity.</td>
</tr>
<tr>
<td></td>
<td>Admissions selection method to withstand high numbers of applicants.</td>
</tr>
<tr>
<td></td>
<td>Inconsistent grading criteria across universities.</td>
</tr>
<tr>
<td></td>
<td>High numbers of graduates with 2.1s.</td>
</tr>
<tr>
<td></td>
<td>Why select candidates with weaker academic backgrounds?</td>
</tr>
<tr>
<td></td>
<td>Narrow and rigid entry requirements limits other important skills such as leadership, innovation and adaptation.</td>
</tr>
<tr>
<td></td>
<td>Cost effective solution given funds provided by NHS stakeholders, taxpayers and courses.</td>
</tr>
<tr>
<td></td>
<td>Evidence of academic abilities at postgraduate level, for example, distinction at MSc level, completed PhD, publications.</td>
</tr>
<tr>
<td></td>
<td>Maintaining high academic standards across the clinical psychology profession.</td>
</tr>
<tr>
<td></td>
<td>Compete with other competitive professions such as medicine known for academic excellence.</td>
</tr>
</tbody>
</table>

**Aims**

Variations in academic entry requirements and eligibility criteria for entry onto DClinPsy courses may pose additional anxiety, ambiguity and concern amongst the pool of applicants applying for highly competitive DClinPsy places. This paper presents a summary and content analysis of academic requirements outlined by 30 DClinPsy courses for 2016 entry. It is hoped that summarising and reflecting on academic entry requirements will assist applicants’ pursuit of clinical psychology training.
Findings
Table 3 and Table 4 summarise academic entry requirements for 2016 entry onto 30 UK DClinPsy courses. Inspection of entry requirements reveal the majority of DClinPsy courses (60 per cent, 18 out of 30) considered applicants with 2.2s, with 40 per cent of universities (12 out of 30) specifying a minimum 2.1 criteria. Lancaster University reflects an exception by measuring candidate academic performance from a series of selection tasks rather than filtering applicants on the basis of undergraduate final degree classifications.

<table>
<thead>
<tr>
<th>University</th>
<th>Academic entry requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Bath</td>
<td>Either a 1st or 2:1 in an undergraduate psychology degree OR an undergraduate degree in another subject with a Master’s level conversion course with either merit or distinction.</td>
</tr>
<tr>
<td>University of Birmingham</td>
<td>You must have either a 1st class degree or a high 2:1 with a final mark of 65 per cent or above. You will need proof of your final mark at the time of applying. If you have a lower 2:1 (i.e. a final mark of below 65 per cent) you will need a completed clinically relevant Master's degree in addition.</td>
</tr>
<tr>
<td>University of Coventry</td>
<td>Candidates should normally have at least a 2:1 honours degree.</td>
</tr>
<tr>
<td>University of East London</td>
<td>Applicants must hold an honours degree of at least a high 2:1 class (overall grade of 65 per cent or greater). Applicants with a conversion diploma/MSc must have a high 2:1 class or better in their first degree.</td>
</tr>
<tr>
<td>University of Edinburgh</td>
<td>Applicants should hold at least a 2:1 honours degree in psychology.</td>
</tr>
<tr>
<td>University of Glasgow</td>
<td>Candidates must have been awarded a degree of at least 2:1 degree classification or above.</td>
</tr>
<tr>
<td>University of Leeds</td>
<td>Acceptance into the University of Leeds scheme requires that a person should have a degree in Psychology recognised by the British Psychological Society (BPS) as meeting Graduate Basis for Chartered Membership (GBC) standards at an upper second or first class level, or have a recognised 'conversion' degree.</td>
</tr>
<tr>
<td>University of Manchester</td>
<td>A minimum of a 2.1 degree in single honours psychology or joint honours where psychology constitutes at least 50 per cent of the course is required.</td>
</tr>
<tr>
<td>University of Oxford</td>
<td>Candidates are normally expected to have obtained a good (mid or high) 2:1 or 1st class honours degree, prior to submitting their application.</td>
</tr>
<tr>
<td>Royal Holloway, University of London</td>
<td>We are interested in graduate applicants with a good academic record and a minimum 2:1 degree in psychology.</td>
</tr>
<tr>
<td>University of Sheffield</td>
<td>A good 2:1 or 1st class honours degree in Psychology, which is accredited by the British Psychological Society. We do not currently consider candidates who have achieved a 2:2 in their undergraduate degree even with subsequent higher education qualifications.</td>
</tr>
<tr>
<td>Staffordshire University</td>
<td>Candidates should have a good honours degree (2:1 or 1st) in psychology.</td>
</tr>
</tbody>
</table>
Table 4: DClinPsy academic entry requirements for psychology graduates with 2.2s.  
(Clearing House, 2015b).

<table>
<thead>
<tr>
<th>Course</th>
<th>Academic entry requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Bangor</td>
<td>Before applying you should have already obtained a single or joint honours first or good upper second-class (above 64%) psychology degree. Applicants with a low 2:1 or 2:2 psychology undergraduate degree will be considered if they have completed a PhD.</td>
</tr>
<tr>
<td>University of East Anglia</td>
<td>At least a 2:1 honours degree in psychology. We will also consider applicants with a 2:2 Honours degree who have completed a Master's by Research. That is, it must be classified as a research degree and does not contain any taught component. We will also consider applicants with a 2:2 honours degree who have completed a DPhil or PhD.</td>
</tr>
<tr>
<td>University of Essex</td>
<td>A 2:2 or low 2:1 honours degree in Psychology with subsequent demonstration of academic competence, for example through achieving 65% or above (or equivalent) at Master's/Doctoral level in a research degree relevant to clinical psychology.</td>
</tr>
<tr>
<td>University of Exeter</td>
<td>Applicants who obtained a 2:2 honours degree in a BPS recognised undergraduate degree might be eligible to apply but would need additional minimum postgraduate (Master's level that has a clear research component) qualifications to demonstrate academic competence for a Doctoral level programme.</td>
</tr>
<tr>
<td>University of Hertfordshire</td>
<td>Applicants with a 2:2 degree will only be considered if they can demonstrate this is unrepresentative of their academic potential, and have demonstrated further academic capability, such as strong performance in a relevant, academically-oriented higher degree.</td>
</tr>
<tr>
<td>Institute of Psychiatry, Psychology and Neuroscience</td>
<td>Normally, candidates are required to have a minimum 2:1 degree in Psychology, or different discipline where the candidate has achieved Graduate Basis for Chartered Membership (GBC) with the British Psychological Society via a conversion diploma. Candidates without the required minimum degree class must provide evidence of a qualification at doctoral level.</td>
</tr>
<tr>
<td>University of Lancaster</td>
<td>At the time of application candidates must be eligible for Graduate Basis for Chartered Membership (GBC) with the British Psychological Society.</td>
</tr>
<tr>
<td>University of Leicester</td>
<td>Good Honours degree in psychology (mid 2:1 or above). People with a low 2:1 will be considered if they have supplemented their first degree by completing a research-based Master's or a PhD in an area relevant to clinical psychology. People with a 2:2 will be considered if they have supplemented their first degree by completing a PhD in an area relevant to clinical psychology.</td>
</tr>
<tr>
<td>University of Liverpool</td>
<td>The minimum requirements are a 2:1 honours degree in psychology or an equivalent combined honours degree where psychology accounts for more than 50% of the programme content and examinations. Applicants with a 2:2 degree who have successfully completed a higher degree such as an MPhil, MSc or PhD will be considered.</td>
</tr>
<tr>
<td>University of Newcastle</td>
<td>An undergraduate degree of 2:1 in psychology or if a 2:2 is obtained, there must be very clear evidence of subsequent academic achievement equivalent to a good 2:1.</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>University College London</td>
<td>The minimum requirement for entry is a good upper second class honours degree (or its equivalent). Broadly this means that candidates should have achieved a mid or high 2:1. Applicants with a low 2:1 or a 2:2 will not be accepted unless there is unequivocal evidence that this result is unrepresentative of their academic potential. This needs to be demonstrated by achievement in an academically demanding course, for example, achieving a high 2:1 in a further undergraduate degree, or a Distinction in an academically rigorous Master’s degree.</td>
</tr>
<tr>
<td>University of Plymouth</td>
<td>Entry requirements for our programme is an honours degree in psychology, a 1st or 2.1. Applicants with a 2.2 degree who have completed a further postgraduate academic research qualification may also be considered.</td>
</tr>
<tr>
<td>Canterbury Christ Church University</td>
<td>A 1st class or 2:1 degree is essential for candidates who have an undergraduate psychology degree only. Applicants with a 2:2 undergraduate psychology degree will be considered if they hold a completed relevant Master's level qualification with an average achievement at 65% or above, or a completed clinically relevant PhD.</td>
</tr>
<tr>
<td>University of Southampton</td>
<td>Applicants must hold, or be expected to attain, a 1st class honours or a 2:1. An applicant with a 2:2 would be considered if they have successfully completed a relevant higher degree, for example an academically demanding MSc. Unfortunately, to meet this criterion we would not accept a 2:2 and a postgraduate diploma.</td>
</tr>
<tr>
<td>South Wales, Cardiff University</td>
<td>A 2.1 honours degree in psychology is normally required. Candidates with a 2.2 degree may be considered if they are able to demonstrate an ability to work at postgraduate level. This is normally evidenced by successful completion of a postgraduate degree at Master’s level or above.</td>
</tr>
<tr>
<td>University of Surrey</td>
<td>Candidates are required to have a 1st or upper 2:1 honours degree. Applicants who attained a 2:2 undergraduate or conversion psychology degree will be considered if they hold either a completed Master's by Research qualification with average achievement at 65% or over, or a completed PhD.</td>
</tr>
<tr>
<td>University of Teesside</td>
<td>Applicants who have shown a strong academic attainment in their undergraduate psychology degree (2.1 or above). Candidates with a 2:2 degree will be considered if they can provide evidence of their ability to work at postgraduate level, that is, they have successfully completed an academically relevant Master’s programme with a research component.</td>
</tr>
<tr>
<td>Nottingham Trent University</td>
<td>All applicants must have a good honours degree in Psychology recognised by the BPS. In exceptional circumstances, candidates with a 2:2 degree may be considered if they have a higher degree as evidence of ability to complete a demanding postgraduate level programme.</td>
</tr>
</tbody>
</table>
Universities considering applicants with 2.1s and above only
Table 3 shows a minimum 2.1 was required from 12 universities including University of Bath, University of Birmingham, University of Coventry, University of East London, University of Edinburgh, University of Glasgow, University of Leeds, University of Manchester, University of Oxford, Royal Holloway, University of London, University of Sheffield and Staffordshire University. Of these 12 universities, 10 cited a minimum 2.1 criteria (83 per cent of universities), whereas the University of Birmingham and the University of East London both specified a minimum 65 per cent or above final undergraduate degree classification average.

Universities considering graduates with 2.2s and postgraduate qualifications
Table 4 shows almost all universities (94 per cent or 17 out of 18) required applicants with 2.2s to complete postgraduate qualifications in order to be considered. The University of Surrey and Canterbury Christ Church University require an average of 65 per cent or above at Master’s level. Other universities, including Nottingham Trent University, presented more general academic entry requirements such as completion of a ‘demanding postgraduate level programme’. Given the diversity of entry requirements across the 30 DClinPsy courses, with the exception of Lancaster University, specific entry requirements were divided into entry requirements for applicants with a low 2.1, applicants with low 2.1s and 2.2s and applicants with 2.2s.

Applicants with a low 2.1
At the University of Leicester, applicants with a low 2.1 were required to complete a research-based Master’s or PhD in an area relevant to clinical psychology.

Applicants with low 2.1s and 2.2s.
The University of Newcastle, University of Essex, University of Bangor and University College London (UCL) grouped applicants with a low 2.1 or 2.2 into a single category. Applicants with a low 2.1 and 2.2 were required to obtain postgraduate qualifications equivalent to a good 2.1 at the University of Newcastle and a high 2.1 in a further undergraduate degree or distinction in an academically rigorous Master’s degree (UCL). The University of Essex required more stringent requirements of 65 per cent or above at Master’s/Doctoral level in a research degree relevant to clinical psychology. Finally, applicants with a low 2.1 or 2.2 were required to complete a PhD for the University of Bangor.

Applicants with 2.2s
Candidates with 2.2s typically encounter further entry requirements in comparison with candidates with 1sts and 2.1s. For example, candidates with 2.2s were required to complete an academically demanding MSc (University of Southampton); demanding postgraduate level programme (Nottingham Trent University) or postgraduate degree at Master’s level or above (Cardiff University). Other universities required candidates with 2.2s to demonstrate strong performance in a relevant, academically orientated higher degree (University of Hertfordshire) and completion of a higher degree such as an MPhil, MSc or PhD (University of Liverpool). Other universities required candidates with 2.2s to demonstrate postgraduate research skills by completing a Master’s qualification with significant research components at the University of Teesside and University of Exeter, or a postgraduate academic research qualification at the University of Plymouth.

Other universities specified additional stringent academic requirements for candidates with 2.2s. For example, University of Surrey and Canterbury Christ Church University required candidates with 2.2s to complete a Master’s level qualification with an average achievement of 65 per cent or above or a completed clinically relevant PhD. Furthermore, three universities required applicants with a 2.2 to complete a
DPhil or PhD (University of East Anglia), a clinically relevant psychology PhD (University of Leicester) or a qualification at doctoral level (Institute of Psychiatry, Psychology and Neuroscience).

**Discussion**

This paper summarises academic entry requirements cited from 30 UK clinical psychology training courses for 2016 entry. From a content analysis of 30 academic entry requirements for DClinPsy courses, universities presented a diverse spectrum of entry requirements for DClinPsy applicants ranging from attainment of postgraduate qualifications to attainment of specific final grade percentages at postgraduate level. Of the 30 universities offering the DClinPsy course, 60 per cent of universities considered applicants with 2.2s, whereas 40 per cent cited a minimum 2.1 criteria. In contrast to candidates with 1sts and 2.1s, candidates with 2.2s were required to demonstrate specific markers of academic excellence such as completion of a research based demanding postgraduate degree or completion of a doctoral qualification.

**Theoretical frameworks and reflections**

Psychological theories, findings and models may reflect one additional way of understanding rationales for implementing specific entry requirements. Emphasising high academic performance may originate from a knowledge-driven economy characterised by rewarding graduates with the highest credentials with the best opportunities within employment and labour markets.

Motivations for specific entry criteria may reflect compliance, defined as yielding to group pressures (Crutchfield, 1955) and ‘group think’ displaying consensus of opinion without critical reasoning or evaluation (Janis, 1972). Drawing from other social psychological theories (Tajfel, 1978) if most chartered psychologists obtained 2.1s or higher, a minimum 2.1 criteria may reflect preservation of in-group characteristics and gravitation towards people with similar abilities. Similarly, upward comparisons and the ‘unidirectional drive upward’ hypothesis of preferring individuals with higher achieving candidates (Festinger, 1954), may reinforce preferences for applicants with exceptional academic backgrounds.

The application process could also be comparable with the ‘deficit model’ of viewing underperformance as evidence of applicant academic deficiency, yet diverting attention from working towards more egalitarian and fair selection procedures (Vincent & Idahosa, 2014). One example of a potential deficit with DClinPsy admissions includes the exclusion of candidates with 2.2s and completed PhDs, within 40 per cent (12 out of 30) UK universities offering the DClinPsy.

Experiences of disadvantage and rejection as a result of a lower undergraduate classification may also motivate students to succeed during university study and facilitate empathetic attitudes towards marginalised groups encountering rejections (Vincent et al., 2014).

**Recommendations and tips**

**Aspiring psychologists**

- Carefully scrutinise entry criteria that match your preferences along with your academic and work profile. This article provides a useful summary of variations in academic requirements outlined from 30 UK DClinPsy courses.
- Undergraduate performance is heavily emphasised within most DClinPsy shortlisting criteria. Try and obtain the highest undergraduate degree classification if considering applying for DClinPsy courses. A lower undergraduate degree classification may restrict eligibility to certain DClinPsy courses.
- As part of the DClinPsy admissions process, DClinPsy applicants were required to submit undergraduate academic transcripts of all modules completed. If at all possible, try and obtain the best marks possible in all undergraduate modules, particularly if
considering submitting an application for clinical training.

- Try and obtain the best marks possible, particularly within research methods modules given the emphasis on research methods skills in DClinPsy programmes.
- Consider contacting psychologists for help, assistance or guidance in completing your DClinPsy form.
- Determination, resilience, tenacity and dedication may significantly improve prospects.
- Stay positive! Focus on your strengths throughout any postgraduate admissions process.

**Psychology profession**

- Further research and exploration of selection tasks beyond an applicant’s initial undergraduate classification.
- Call for more flexibility surrounding entry requirements, particularly amongst graduates with 2.2s and completed doctorates.

**Conclusion**

In 2015, 30 UK universities provided a wide range of entry criteria for the clinical psychology doctorate. Insights from social psychology can provide useful suggestions of cognitions in clinical training applicants. Reflections on admission criteria allow opportunities for improvement and professional development in applicants and the wider psychology profession.

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AMONGST THE DIFFERENT FUNCTIONS sleep has been claimed to have, research has supported the role of sleep in the processing and storing of memories in the brain. There are three processes involved in the function of memory, namely encoding, consolidation and retrieval. Encoding is the process during which newly learned information is formed into a memory representation, which is initially unstable. During consolidation, this representation is strengthened into a more stable representation that integrates into pre-existing knowledge networks. These consolidated memories can then be accessed during later retrieval (Diekelmann, Wilhelm & Born, 2009). The consolidation of memories is believed to benefit from sleep (Diekelmann & Born, 2010; Smith, 2001), however, it has been argued that memories which are considered relevant for the future are subject to an enhanced consolidation during sleep (Stickgold & Walker, 2013). This discussion paper will provide an overview of the research that has been done on the consolidation of memories with future relevance during sleep, followed by a description of a current study extending this line of research.

Memory consolidation during sleep
Sleep is believed to play an active role in the consolidation of memories (Diekelmann & Born, 2010; Smith, 2001). The different stages of sleep that people go through during the night are thought to be involved in the consolidation of different types of memory (Diekelmann & Born, 2010; Smith, 2001). Specifically, Slow Wave Sleep (SWS) has been found to be involved in the consolidation of declarative memories (Diekelmann & Born, 2010; Smith, 2001), which are memories for events and fact-based information that can be consciously recollected (Diekelmann et al., 2009). Rapid Eye Movement (REM) sleep is mostly involved in processing of emotional memories and procedural memories (Wagner, Gais & Born, 2001), referring to implicit learning and memories for skills that cannot necessarily be consciously recollected (Diekelmann et al., 2009). Finally, stage 2 sleep is believed to be involved in memory for motor skills (Diekelmann & Born, 2010; Smith, 2001).

A process of memory triage for consolidation during sleep has been proposed, in which memories are processed differentially based on salience tags that are attached during or after encoding of new information. During sleep, the memories that are tagged as relevant are consolidated, but the memories tagged as irrelevant are not consolidated (Stickgold & Walker, 2013). Sleep-dependent memory consolidation can thus be modulated by the perceived importance of the material learned, which thus acts as a mechanism by which memories with future relevance are preferentially stabilised and strengthened (van Dongen et al., 2012). This discriminatory selection is necessary for rapid and effective adaptation to changes in the environment and serves multiple forms of memory (Stickgold & Walker, 2013).

Types of selective consolidation during sleep
There are different types of newly encoded memories that have been found to be selectively consolidated during sleep. Firstly,
knowledge of future testing affects consolidation (Badets et al., 2006; Goschke & Kuhl, 1993). When participants are informed of, or expect, later testing on learned material, performance is better after a period of sleep compared to a period of wake when they do not expect later testing. This effect is found for both declarative and procedural memories and is linked to increased time spent in SWS for those informed about later retrieval (Wilhelm et al., 2011). Oudiette and Paller (2013) suggest that important information is replayed during sleep to protect against forgetting. Specifically, targeted memory reactivation during sleep has been shown to rescue memories from forgetting, whereas reactivation during wake does not (Oudiette & Paller, 2013).

Secondly, memory formation is thought to benefit from implicit emotional salience cues that may be relevant for survival (Cunningham, Chambers & Payne, 2014; Payne et al., 2008). Recall of emotional texts, compared to neutral texts, has been found to be superior after a period of late retention sleep, compared to early retention sleep or wake. Since late sleep predominantly involves REM sleep, these findings indicate that this stage of sleep is important for the formation and consolidation of emotional memories. REM sleep is characterised by increased activation in the amygdala, which is involved in the processing of emotional material (Wagner et al., 2001). In addition, memories of negative objects in scenes, but not neutral objects or backgrounds, have been found to be preserved after a period of sleep compared to wake (Payne et al., 2008). Cunningham et al. (2014) examined how the consolidation of emotional memory is affected by the explicit knowledge of future relevance, and how sleep interacts with this. Participants encoded scenes containing a negative or neutral object, learning being followed by a period of sleep or wake. After encoding, half of the participants were informed of future testing. The knowledge of future testing enhanced memory of the negative objects, both after sleep and wake, but had no effect on neutral objects. Participants that stayed awake between learning and testing showed a larger increase in emotional memory compared to neutral memory when informed of later testing, than when they did not expect to be tested. Those that slept, on the other hand, demonstrated an increase in emotional memory compared to neutral memory regardless of having prior information on being tested. These findings suggest that sleep alone is enough to tag emotional salient information as important for the future, thus enhancing consolidation of emotional memories, and that the knowledge of future testing does not further enhance this (Cunningham et al., 2014).

Thirdly, sleep selectively consolidates information when a potential monetary reward is expected (Fischer & Born, 2009). Sleep has been found to improve performance on a motor skill task when an award is anticipated. Participants were trained on a finger-tapping task, and afterwards were told that they could increase their payment if they showed improvement in performance at testing after sleep or wake. An overall improvement in motor performance was found after sleep relative to wake, and this effect was significantly larger with the anticipated reward (Fischer & Born, 2009).

Finally, some studies have researched the effect of sleep on directed forgetting, as well as on remembering information (Rauch et al., 2011; Saletin, Goldstein & Walker, 2011). In these studies participants were cued to specifically remember or forget certain items. Memory was then tested for both types of items after a period of sleep, wake, or sleep deprivation. Sleep was found to preferentially consolidate items to be remembered compared to items to be forgotten, whereas wake or sleep deprivation have no such selective effect (Rauch et al., 2011; Saletin et al., 2011).

All these findings support an active role of sleep in the consolidation of specific memories that are of future relevance. Expectancy is thus an important factor in
determining which new memories are consolidated during sleep. The brain is thought to develop a hierarchy of salience, in which the most salient memories are processed and stored (Wilhelm et al., 2011). Encoded information that is expected to be recalled later has been found to specifically benefit from SWS, which is linked to hippocampal-dependent memory consolidation (Wilhelm et al., 2011). In line with previous research, REM sleep has been found to be involved in consolidation of emotional memories (Wagner et al., 2001). Furthermore, higher hippocampal activity during encoding has been found for items targeted to be remembered compared to forgotten, suggesting that this activity during learning triggers memory consolidation during sleep, leading to greater consolidation of items with higher hippocampal activity (Rauch et al., 2011).

**Future directions**

I am being funded by PsyPAG for a study that will extend the idea of selective consolidation during sleep of memories relevant for the future. To operationalise the distinction between perceived useful new knowledge and less useful new knowledge, English newcomers to Wales, with no experience of living in Wales or learning Welsh, are taught the Welsh translations of 14 English words. Twelve hours later, after a period of sleep or a period of wake, memory of the translations is tested using free recall and cued recall. As a control condition, participants also learn the Breton translations of another 14 English words, matched for frequency and concreteness. Breton has many similarities to Welsh and the two languages are of similar difficulty, and so language difficulty is controlled for. It is hypothesised that memory change across a period of sleep will be better for Welsh translations than for Breton translations, and that the two conditions will not differ in performance change across a period of wake. Furthermore, within the sleep group, level of interest and support for the Welsh language is hypothesised to correlate with Welsh word memory improvement across sleep, whereas this correlation is not predicted to be significant for the wake condition; interest or support for the Welsh language is hypothesised not to be correlated with Breton learning in either condition. The basis for the hypotheses is that learning Welsh is of future use for those living in Wales, whereas learning Breton is not. If the hypotheses are confirmed, the real life implications of the findings will be to reinforce advice to have sufficient sleep when learning, particularly when interested in the material that is being learned.

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AS WITH ANY COGNITIVE ABILITY, attention is vulnerable to dysfunction. The most common attentional problem is attention deficit hyperactivity disorder (ADHD). This brief overview will highlight the symptoms and deficits associated with ADHD, its prevalence in today’s society, the association between executive function impairment and ADHD using Barkley’s (1997) work, and the personal and societal effects of the disorder.

ADHD has impairing symptoms including inattention, disorganisation, impulsivity, and hyperactivity (American Psychiatric Association, 2013). Other indicators of ADHD include failure to attend to detail, the production of thoughtless mistakes, forgetfulness, and the appearance of not listening when spoken to (APA, 2013). There are three main subtypes of ADHD: impulsive type, inattentive type, and combined type. Those with impulsive type display more outward behavioural symptoms of ADHD, such as hyperactivity, fidgeting, excessive movements when the expectation is to be still (i.e. in situations like classrooms or meetings), and disproportionate talking (APA, 2013). Those with ADHD-inattentive type tend not to display these behaviours, but can be more internally distracted, restless, and struggle to stay on task. Those with ADHD-combined type display the symptoms of both the inattentive and the impulsive types.

ADHD is one of the most pervasive psychological conditions in children, and is a prevailing condition in adulthood. Many studies have aimed to determine the exact prevalence of ADHD in society. According to the DSM-5 (APA, 2013), surveys have shown that ADHD exists across cultures, with around 5 per cent of children and 2.5 per cent of adults having the condition. In the US alone in 2011, 11 per cent of children had been officially diagnosed with ADHD with 6.1 per cent of those children receiving treatment by medication (Centres for Disease Control & Prevention, 2013). Approximately 80 per cent of children with ADHD will also have the condition in adolescence and adulthood. One systematic literature review found that the worldwide incidence of ADHD was 5.29 per cent (Polanczyk et al., 2007).

According to Barkley (1997), there are four main deficits to ADHD. These are: ‘(a) poor investment and maintenance of effort; (b) poor modulation of arousal to meet situational demands; (c) a strong inclination to seek immediate reinforcement; along with (d) […] difficulties with impulse control’ (Barkley, 1997, p.65). It is clear that these four factors corroborate with the symptoms of ADHD. Scholars have also suggested that the impairments apparent in people with ADHD are a result of a deficit in motivation (Glow & Glow, 1979), or due to poor stimulus control and an inability to follow behavioural rules (Barkley, 1981; as cited in Barkley, 1997). However, these ideas are not well received in the field, and as a response to this, Barkley (1997) created his ‘unified theory’ of ADHD.

According to this theory, a proposed cause of ADHD is a deficit in executive function (EF), as EF impairment is often found in individuals with the disorder. Barkley (1997) proposed that poor response inhibition was the main problem, and attributed this to the functioning of the frontal lobes,
where EFs are operated from. Inhibition is the 'mechanism that reduces or dampens neuronal, mental, or behavioural activity' (Clark, 1996, p.128), and this is thought to play an important role in the management of behaviour. Inhibition can be cognitively assessed by the individual's ability to withhold or delay a response, the termination of an existing response, and resistance to distraction (Barkley, 1997). Barkley (1997) stated that there are four EFs that specifically guide self-regulation and goal-directed behaviour, which depend, at least in part, on successful behavioural inhibition. The four EFs are working memory (e.g. keeping information in mind, and manipulating or using it), self-regulation of affect/motivation/arousal (e.g. emotional, drive, and stimulation control), internalisation of speech (e.g. reasoning, problem solving, and rule following), and reconstitution (e.g. behaviour analysis, verbal/behavioural fluency, creativity) (Barkley, 1997). A deficiency in inhibition leads to an impairment in these four EFs which affects self-regulatory behaviour and behavioural fluency, a lack of which is evident in the symptoms of ADHD.

Support for Barkley's (1997) unified theory was evidenced by Houghton and colleagues (1999). They tested individuals with non-medicated ADHD on five EF tasks and compared their performance to those in a control group (participants without ADHD). It was found that people with ADHD diverged from the control group on behavioural and response inhibition. As those with ADHD were clear of any comorbid conditions, it was determined that the deficits in EF were an ailment of ADHD itself (Houghton et al., 1999). Furthermore, people with the disorder had significantly more EF impairments than those who did not (Happé et al., 2006). When tested on the EFs of response inhibition, working memory, and flexibility (akin to Barkley's (1997) reconstitution), it was observed that those with ADHD showed no improvement in EF with age. Interestingly, when a comparison group of individuals with autism spectrum disorder (ASD) was considered, it was established that those with ADHD displayed more severe and enduring EF deficiencies than those with ASD (including Asperger's syndrome; Happé et al., 2006).

In further support, a meta-analysis of 83 studies that tested those with and without ADHD on measures of EF concluded that those with the disorder had significantly poorer performances on all of the EF tasks utilised (Willcutt et al., 2005). Medium effect sizes were shown for these findings, with the greatest and most stable deficits being in response inhibition, vigilance, working memory, and planning (Willcutt et al., 2005). The differences could not be explained by variation in IQ or the symptoms of comorbid conditions.

Barkley's (1997) theory, and the research in support of it, shows that the behaviour of those with ADHD is likely to be influenced by situational context, more so than for those without the disorder (Brown, 2013; Houghton et al., 1999). This means that it should not be taken for granted that those with ADHD will have EF impairment irrespective of what they are doing and the context they are in. It is likely that those with ADHD will have a range of tasks that they will be fully able to engage with, without EF decrement, leading to their successful completion. Brown (2013) explained that these tasks are usually of high personal interest to the individual, which therefore catches their attention, resulting in higher levels of concentration. For instance, one may find it very difficult to read an instruction manual, but may have no problem with reading a book from their favourite genre. There is also a second type of situation that would lead to higher levels of focus, which is when the incompletion of a task is perceived to have immediate negative consequences. For example, a student with ADHD may find report writing very challenging and may, therefore, procrastinate as much as possible, but when the deadline is closer, they should find it easier to produce the work due to the worry of acquiring a failed assessment.
That some tasks are carried out more successfully than others should not lead to the opinion that those with ADHD have a lack of willpower on the tasks they struggle with. Concentration cannot always be enforced by the person with ADHD as EFs are automatic procedures (Brown, 2013). Factors that are thought to influence this fluctuation in EF performance are contextual and include personal interest, perceived reward/reinforcement, task type and requirements, and internal cognitive and physiological elements (Brown, 2013).

With consideration of the evidence presented, along with the definitions of EFs, and the symptoms of ADHD, it is clear that deficits of EF are related to the attention disorder. What was less clear until recently was if ADHD was triggered by EF impairments, or if EF impairments were triggered by ADHD. A neurological study has determined that the rate of cortical development of the prefrontal regions of the brain is significantly slower in those with ADHD when compared to control individuals (Shaw et al., 2012). This indicates that it is likely that abnormalities in neural development produce flaws in EF, which in turn could lead to ADHD.

ADHD is a debilitating condition that can affect all areas of an individual’s life and can lead to poor academic achievement, low self-esteem, decreased employment opportunities, as well as lower occupational status, poor relationships, anxiety, depression, and substance misuse (Advokat, Lane & Luo, 2011; APA, 2013; Barkley, 1997). Studies looking at the effect of teacher-based interventions on the behavioural and academic difficulties seen in ADHD children have found that although behaviour can be improved, there are only very small advances to an individual’s academic work (Isemann & Naglieri, 2011). In the US, ADHD is thought to be a significant public health issue and the cause of a substantial financial weight upon both families and society (Polanczyk et al., 2007).

The various types of medication used to treat ADHD can improve the outward behav-
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Hints and Tips:

Practical challenges of testing participants with rare disorders

Emma Lough

WHEN SITTING waiting to be called in to my interview for my PhD, I was preparing my answer to the inevitable question of, ‘Do you have any questions you would like to ask us?’ Aside from some topic-specific questions, I wanted to know more about the channels in place to help me recruit participants. I was applying to do a PhD on individuals with Williams syndrome, a rare genetic disorder that affects just one in 20,000 (Morris & Mervis, 2000), so I was anticipating that recruitment would be UK-wide. My question was met with reassurance that I only needed a relatively small number of participants for each study, and they could be reached through an existing database. It was not until I was approaching the start of my second year that I realised that this type of recruitment presents many practical challenges, and can open up a ‘postcode lottery’ style of recruitment. For others who are embarking upon a PhD that involves working with a rare condition, I would offer the following tips to help ensure you can reach as many people as possible:

Tip 1: Consider the practicalities of travelling with your research equipment

If you are working with individuals with a rare disorder, it’s more than likely that you will have to prepare yourself for a great deal of travelling. The first thing you need to consider when planning your research is that any equipment that you need must be easily transportable, and able to be used in a variety of different environments. This means keeping heavy equipment to a minimum, and always having a ‘plan B’ for when your software inevitably stops working. I try to ensure I have as many ‘spare’ pieces of equipment as I can, and failing that, I also take with me some paper copies of electronic tasks in case there is an issue with the software. Planning for all eventualities will ensure that you get the most out of your testing session.

Tip 2: Organise your database

A great deal of planning is required before you can go and test participants with rare conditions, and one of the most important is having an organised database. This means ensuring that you have an up-to-date record of contact details, which will allow you to group participants by regions. It is also important that you liaise with other members of your research group. As studying rare conditions means there is a smaller pool of participants from which to recruit, try to ensure that you are not bombarding families with invitations to take part in research.

Tip 3: Assess estimated costs

Once you have an organised database, you should draft some projections for the estimated cost. A starting point for this will be to decide on your preferred mode of travel. Whether you are travelling by road or rail, the costs soon start to mount up. Often families who have a child with a rare disorder are keen to take part in research and learn more about the condition. However, without the appropriate funds in place, you are faced with a ‘postcode lottery’ situation, where you can only travel to those closest to you. If those families further away do not have an
active research group near them, then they will miss out on many opportunities. To avoid this, address funding in the early stages of your planning. I applied to PsyPAG for a bursary, which enabled me to visit families that would otherwise have been excluded due to their location.

**Tip 4: Send out availability sheets well in advance**

Asking participants to fill in availability sheets documenting all of their free days over an extended period can help to ensure that you can find a time that is convenient for both them and you. Wait until you have as many responses as possible before arranging and confirming dates with participants to avoid having to make changes.

**Tip 5: Group families together**

If you collect in availability sheets for all respondents in your region of interest, then you can begin to group families together and plan your travel so that it can encompass as many participants as possible. This helps to make the process more time- and cost-effective: although be realistic and understand that this is not always feasible. You also need to consider the travel time between participants. I find this challenging as I have to account for the level of traffic at various times in places I have not visited before. It is always better to be cautious and give yourself extra time between appointments, than to be late and keep people waiting.

**Tip 6: Build a good rapport with the participant and their families**

If you have travelled to meet participants and their families, then make sure you spend time getting to know them. Not only is this a good way to learn more about your field of study, but it helps to build bridges and increase the likelihood of them inviting you back in to their home for your next study. During this time, you should also try and gather some information about the areas that the participants feel need to be addressed. This is a great opportunity to generate new ideas, and to ensure that the work, where possible, has some applied potential.

**Tip 7: Adhere to confidentiality guidelines**

As you begin to develop a rapport with the participant and their family, it is inevitable that they will start to feel more comfortable asking you questions. When you are working with individuals with rare conditions, they often do not have access to well-established support groups, and may not have much contact with other people who also have the condition. As such, I have often been asked, ‘So who else have you visited today, anyone else near here?’ Whilst this is asked with innocent intentions, it is important that you remember not to give out information about other families that you have seen.

**Tip 8: Be appreciative**

The final suggestion that I have to offer is to ensure that you are appreciative of the time participants are taking to do your research. When there is a great deal of travel time and expense involved, it can be easy to become tired and disgruntled. Indeed, it is highly likely that one of your participants may have to cancel at short notice, at which point you have already travelled to the area. Try to remain flexible, and remember that they are also giving up their free time to help with your research, so it is a privilege not an entitlement to work with them.

**In summary**

This is just a snapshot of what I have learnt since I started testing individuals with Williams syndrome. Through all the challenges associated with travelling to meet people with this rare condition, I have thoroughly enjoyed every minute of meeting them. I hope from reading this, people at the beginning of their PhD will realise the importance of early planning and funding to help ensure that participation in research is open and accessible to all.
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References
The British Psychological Society's Annual Conference 2015
Helen Staff

The BPS Annual Conference took place in Liverpool during May 2015. On initial arrival I was apprehensive about the conference because I am a PhD student who is new to the ‘conference circuit’. I was attending a large conference alone for the first time and was unsure about how successful I would be at beginning to develop my networking skills that I know are important. I arrived in Liverpool on a rainy, miserable day and found my way to the Arena and Convention Centre, which is near the docks. My excitement grew and my nerves began to fade as I heard the Beatles’ Let It Be playing from a nearby museum.

On arriving at the centre I checked in at the registration desk and rummaged through my registration pack to see what was inside. I found the conference programme and began to circle the sessions that I wanted to attend. This proved helpful throughout the conference as I made my way from session to session with little time to think about what was on offer.

The conference began and the opening keynote was delivered by Professor Sarah-Jayne Blakemore who focussed on the social brain of adolescents. The talk was inspiring
and I began to link parts of it to ideas that I have for my PhD. Following the keynote, I had chosen to attend the student conference and was pleased to find conference volunteers who were able to help me find my way to this. The student conference started with a talk from Matt Field and Sara Finlayson who discussed careers in psychology. The two speakers came from different backgrounds; one is a research psychologist and the other is a clinical psychologist working in applied practice. The stories that they provided and the tips that they offered focussed on work experience for applied practice and PhD applications. In addition, Field discussed the importance of publications throughout your PhD journey as it will enhance your employability and research portfolio. These were helpful in assisting my reflection on my career to date and where I want to be in five years’ time.

During lunch I had intended to attend the lunch discussion, which was due to focus on ‘bad writing’ in psychology. Instead, I seized an opportunity to develop my all-important networking skills by having an informal discussion with a group of students from Glasgow University and some research assistants from London. We talked about the role of a research assistant within an applied setting, PhD applications, and the presentations we had all attended. Having a conversation with these individuals helped me to realise that many other attendees were in a similar situation to myself and were attending a conference for the first time. I was also pleased that I did not have to use the lunch hour looking busy on my laptop to avoid appearing lonely. After lunch I made my way to some of the oral presentations that focussed on stress and wellbeing. From these presentations I learnt about the provisions put into place to support victims of the Canterbury earthquakes and the New Zealand government’s initiative to use text messaging as a means to alert the public to an important event. I then attended the keynote address within the student conference, which was delivered by Professor Sophie Scott and focussed on ‘The Science of Laughter’. The clue was in the name; Professor Scott’s keynote had the audience laughing almost uncontrollably as we watched videos of men slipping on ice and rats being tickled. Behind the brilliant video clips was an insightful keynote that made me think about laughter as an innate emotion.

After Professor Scott’s keynote, I attended Dr Phil Banyard’s student keynote address, which I was welcomed to with lively music and a thought-provoking suggestion: imagine for a moment that everything we know about psychology is wrong. A theme of bad science ran through this address, which I found interesting and alarming. Dr Banyard addressed some myths relating to a variety of topics including the truth about the consumer advice for ‘five fruit and vegetables a day’ and Phineas Gage’s personality transplant. The points Dr Banyard raised stimulated a variety of discussions within the room, such as, to what extend should we stop teaching these myths? My lasting impression of this address was that the story is sometimes better than the fact and that science should be critically consumed by the reader. Dr Banyard’s keynote provided an insightful end to day one of my first national conference experience.

The second day started early and parallel oral presentations ran throughout the day. I opted to attend the Special Group for Independent Practitioners workshop on narrative and reflective practice that was delivered by Julie Allan. I am glad that I attended because the workshop was both engaging and interesting; we discussed some of the ways that story telling can be used within applied psychology practice and consultation. Following the workshop was the keynote that I was most excited about; my PhD supervisors had told me about Professor Sir Cary Cooper’s work and I had earmarked his lecture, which focussed on gross national wellbeing, as one not to miss. As expected, the room was full but I shuffled to the front and found myself a seat. The talk was
engaging throughout and focused on managers’ roles in promoting employee wellbeing. Professor Sir Cooper made numerous references to Joseph Heller’s book *Something’s Happened* so I have made a note to buy this soon after pay day. The talk had many defining and memorable moments but the one that resonated with me the most was a recommendation for improved wellbeing: Professor Sir Cooper said that having time off and taking regular breaks from work are of upmost importance because humans, just like machines, need time to ‘reboot’. This resonated with me because I do not often take time off and I have often been reminded by my supervisors that I need to allow myself some regular downtime. Hopefully Professor Sir Cooper’s talk will continue to resonate with me when I am tempted to check my work emails during the weekend or read just one more article late of an evening. The rest of my second day at the conference consisted of attendance at oral presentations on social identity, cultural identity, and educational discourses, as well as discussions with other attendees.

To summarise my experiences, the conference showcased a variety of topics and cutting-edge research from academics, researchers, and applied practitioners. I particularly enjoyed the opportunity to learn about research from a range of disciplines that I would not usually be exposed to in my everyday PhD work. The conference was well-organised and, once the sun came out, the Liverpool docks created a stunning background for the event. I learned that conference attendance is an opportunity to immerse myself in research, stimulate my thinking in different ways, and bounce ideas for research and practice with other attendees. One of the challenges that I experienced was deciding which sessions to attend because there were so many interesting discussions running in parallel. Now that the conference is over and I have returned to Leeds, I feel that I am better prepared to attend large conferences in the future and showcase my current PhD work.

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Annual Conference 2016

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A FIRST YEAR PhD student, I have been concentrating on both settling into a new research department and navigating my way through the literature of my research area. My PhD focuses on developing guidelines for pain assessment in Juvenile Idiopathic Arthritis (JIA) and is grounded in a research centre with a strong emphasis on medicine, genetics and epidemiology. JIA is the most common chronic rheumatic disease of childhood (Tong et al., 2012) and is believed to affect at least 16 young people in every 100,000 (Ravelli, 2003). Given that my background is in health psychology, it has been a challenge to negotiate how my skills and knowledge align to the multidisciplinary research area I now work in. Attending Rheumatology 2015 enabled me to realise the contribution of health psychology to my research and helped to increase my confidence.

This year, the Annual British Society for Rheumatology conference was held in Manchester. The programme handbook indicates that this conference is aimed at ‘rheumatology consultants and trainees who enjoy insights into the latest innovations, professional development resources and networking opportunities’. Given these guidelines, it may be assumed that people who do not meet this professional requirement cannot attend. However, it is important not to overlook this type of meeting if you do not obviously meet the target audience, which may include psychologists and other allied health professionals (such as physiotherapists and occupational therapists). Although not aimed at a psychology audience, the merit in attending became apparent over the two days. Throughout the conference I became familiar with key issues, important names in the field and medical terminology which frequently transpires through my work.

The range of perspectives covered at Rheumatology 2015 was vast. Whilst some presentations concentrated on areas of genetics and biomarkers in rheumatic diseases, others focused on pharmacological/treatment issues and diagnosis and clinical issues (particularly regarding JIA and younger patients). The major attraction of this conference for me was that, both directly and indirectly, my topic area (pain and its assessment) was an issue identified in almost every presentation. Even in talks in which pain was not the main focus, there was still recognition that it was a significant issue for all clinicians and researchers to reflect upon.

For me, the highlight of the conference was a symposium I attended on the first day entitled ‘Pain in the 21st century’. The first of three speakers, Dr Zsuzsanna Helyes, talked about the role of neuropeptides and pain in mouse models of arthritis. The second speaker, Dr Nidhi Sofat, spoke about biological agents in the treatment of pain. The last speaker, Professor Philip Conaghan, spoke about treating bone to manage pain. All of these were theoretical areas I had little previous knowledge about, however, I think this is part of the reason I took so much away from the event. I used this as an opportunity to familiarise myself with current debates, terminology and research methods underpinning rheumatology research, and have since found that I am now in a better position to understand the key studies in pain.
research. This can only have helped in honing my critical appraisal skills.

During these talks I noticed that most of the presenters employed pain assessments as a measure of treatment outcome, mainly measuring pain using simplistic measures such as simple 0 to 10 visual analogue scales of intensity. Thus, I found myself asking my first question in front of a large audience (which was an achievement for me in itself!). Specifically, I asked the speakers whether the tools and measures they had utilised were responsible, in part, for the null findings they had found in relation to people’s pain levels. The fact that the answer from each speaker was ‘yes’ provided much food for thought, demonstrated the need for my work in developing existing pain assessment tools and encouraged me to make my own links between their research and mine.
I then concentrated on attending talks about adolescent rheumatology, another strand of my research. There were some excellent presentations by Dr Rachel Tattersall and Dr John Ioannou, both consultant rheumatologists. Their talks revolved around difficulties faced in children’s rheumatology clinics. I found these symposiums particularly useful as they helped provide additional context to my research area. It helped me see my topic in the light of clinical practice and highlighted another dimension to consider in my writing; the practical application and how my project fits in in the ‘real’ world. Unfortunately, I found concentrating on just attending lectures about my area meant I was hearing a lot of the same information. I was listening to many of the same speakers taking a slightly different slant on the topic area in multiple lectures and I caution students to consider this for their next conference visit. Attending talks on different topics would have afforded me greater variety in the information I could take away. At my next conference visit here next year, I will attend presentations that are more diverse and out of my comfort zone to see what can be learnt from other themes.

Something I think this conference was lacking in was workshops. Attending past psychology conferences, I have found that workshops have been invaluable so that delegates can gain new skills and enhance professional development. I think this conference and its delegates could have benefitted from this approach. However, compared to others I have attended, this conference excelled at providing a narrow focus on rheumatology, rather than a broad overview of multiple disciplines. The tradition of holding special interest group (SIG) meetings was prominent here, at which interdisciplinary scholars come together to discuss one particular topic area (e.g. pain, myositis, hypermobility). I attended a pain SIG, which enabled me to gain further insight into the latest developments in the field and afforded me the opportunity to introduce myself to the group, providing avenues for potential collaborations. Perhaps other conferences could benefit from organising such meetings so that researchers and clinicians have a place to discuss more focused, pertinent issues in their research areas. As a health psychology student, I have found that there is greater merit in attending both condition-focused conferences as well as discipline-focused. For example, health psychology conferences focus on many psychological theories or models, which can be applied to a wide variety of conditions, whereas at this conference, researchers were considering the same condition from a variety of backgrounds and perspectives. I think this made the conference talks very relevant for each of the delegates in attendance.

Another significant feature of this conference and possibly others of its kind was the noticeable sponsorship from many pharmaceutical companies. There were long gaps between talks (an hour for the morning break and almost two hours for lunch), which I speculated was to perhaps allow time for liaising with company representatives. I found myself wondering why the presence of these companies was so prominent, which brought to light something that I had not yet considered to affect my research, wider research and even myself in everyday life. One of the wider debates in epidemiology and medical research that I have recognised over the past few weeks is the potential influence which sponsorship and funding has on drug trials, and one which pharmaceutical companies seem to have the most influence upon. This was demonstrated by the noticeable presence of pharmaceutical giants here and is something that I know I need to consider carefully for the funding and sponsorship of any future medical projects I am involved in.

As is well encouraged throughout conference attendance, I found myself in a variety of situations in which I was networking with academics and senior clinicians who had well-known contributions in this area. As a psychology graduate, I kept my eyes peeled for anyone else with the same background
and was quite surprised to come across only two oral presentations from psychologists (one from a health psychologist and one from a clinical psychology trainee). Even networking over lunches and coffee breaks, I was unsuccessful in making contacts with other psychologists in rheumatology. I found this slightly disconcerting, yet being one of the few people from this perspective actually made my research and background more interesting to the other delegates. Finding myself in a variety of situations with clinicians, epidemiologists and geneticists, I found that they were interested in what psychology can contribute to this research area and had as many questions for me as I had for them. The discipline of psychology was largely underrepresented here which could arguably be due to to psychologist’s typically attending conferences in their own discipline. However, it may also highlight that psychological input is under-resourced in rheumatology. This is an issue that I reflected upon further after the conference ended.

Since attending the conference, I have reflected on how my background led me to be a delegate and why there were so few individuals with similar backgrounds. Over 30 years ago, Matarazzo (1980) stated that opportunities for the discipline of psychology in the larger field of behavioural medicine seem to be largely unrecognised, let alone exploited. Indeed, behavioural medicine is a field in which psychology is uniquely qualified to make a major contribution. Both of Matarazzo’s points here seem important even 30 years on and these statements have strengthened the conclusions I was starting to make about this conference. My skills as a psychology graduate have been suitably chosen to address what is arguably a medically-orientated area, which highlights the continuum of health psychology in the field of behavioural medicine. I believe my presence at the conference signifies how behavioural medicine is becoming a more pertinent issue for healthcare professionals to consider in practice; however, the obvious imbalance in the disciplines of attendees reinforced the point that a more multidisciplinary perspective is required in medical research, of which psychology can contribute to eminently.

In conclusion, attending a conference at such an early stage of my PhD allowed me to concentrate on the talks on offer, the people I was networking with and also stimulated ideas about how my own research area fits in with other advances in the field. Overall, it was interesting to reflect on the contrast between this medical conference and past psychology conferences I have attended. The benefit of attending this conference in the initial stages of my PhD has helped me to settle into my department and has also made me aware of many issues that may affect my research and outlook over the next few years. The conference aided my development as a researcher and helped me to advance my knowledge on rheumatology and pain, particularly regarding medical practice in this area. In addition to this, I feel I am much more aware of the gaps in the field and what psychology can contribute to this area. This provided me with greater awareness than I would have gained from reading literature alone. I hope this review inspires other psychology graduates embarking on a research career to attend a conference outside of their usual choice and I would fully recommend Rheumatology 2016 (taking place in Glasgow) for any students working in the field of arthritis and other rheumatic diseases.
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The Psychology of Appearance is an area that may be unfamiliar to many. Indeed, having started a PhD in the Centre for Appearance Research (CAR) examining the impact of visible differences or disfiguring conditions on intimacy and intimate relationships in October last year, it is an area that I am relatively new to. I am still surprised by the lack of attention that appearance psychology receives. Take a few moments to reflect on your experiences of appearance, the society we have constructed and inhabit, the everyday media and interpersonal influences we are subjected to and our social values and norms. In contemplating these issues, I can’t help but subscribe to the contention that appearance really does matter.

There is, of course, also a body of research supporting the assertion that appearance does matter. Visible differences have been associated with a variety of psychosocial difficulties including anxiety, depression, social anxiety, and social avoidance (Rumsey, Clarke & White, 2003). Rumsey and Harcourt (2004) explain why this may be so, arguing that visible differences contribute to lowered self-perceptions and difficult social interactions via a spiral of negative emotions, maladaptive thought processes, unfavourable self-perceptions and adverse behavioural patterns. The importance of psychology over physiology has been confirmed as such difficulties have been shown to be better predicted by the individual’s subjective evaluation of their appearance rather than an objective measure of their condition (Moss, 2005; Ong et al., 2007). Those who wish to read more may wish to refer to Rumsey and Harcourt (2012) or for those interested in therapy, to Clarke et al. (2013).

As part of the ongoing process of familiarising myself with this area of research, I attended the International Conference of the Impact of Appearance in our Society hosted by Kristianstad University, Sweden, in December 2014. The conference was organised and funded by a European Cooperation in Science and Technology (‘COST’) Action IS1210 entitled ‘Appearance Matters: Tackling the Physical and Psychosocial Consequences of Dissatisfaction with Appearance’. One of the keynote speakers, Dr Alex Clarke, a clinical psychologist and researcher, focussed on psychological interventions. This constituted a strong theme threading together a number of the speakers and so forms the focus of this review.

Dr Clarke referred to the CAR framework of interventions for people with visible differences (see Jenkinson, 2009). This classifies psychosocial interventions according to the level of intensity and practitioner involvement they entail. Level one refers to the provision of information and peer support while the fifth level comprises the most intensive specialist led, face-to-face interventions. Dr Clarke reflected that the framework also describes various interventions and research activities that she has been involved in throughout her career. She illustrated these with reference to specific projects and provided informative anecdotes about her practice.

One project Dr Clarke spoke of during her engaging presentation was also the subject of Dr Heidi Williamson’s address.
This was the ‘YP Face IT’ project. This is an online tool designed to provide support and advice for young people aged 12 to 17 who have an appearance altering condition and experience appearance concerns, anxiety or teasing and bullying. It is delivered through seven weekly sessions that each include activities designed to impart skills, reduce social anxiety and teach and rehearse strategies for dealing with difficult situations. It includes a journal facility and an online forum where those young people with visible differences may socialise together. It sits at level three of the CAR framework as it requires supervision from the research team during its current trial period and, if successful, once disseminated it is intended to be undertaken under appropriate supervision.

Turning from visible differences to body image (how we think and feel about the appearance of our body) and from considering the level or intensity of an intervention to the factors underlying dissatisfaction, Professor Susan Paxton introduced her Risk Management Framework. This posits that a variety of individual and social factors, together with body size, contribute to an individual’s internalisation of body ideals and body comparison tendency which in turn may lead to body dissatisfaction. This dissatisfaction may be maintained by body avoidance, body disparagement and body checking.

It is apparent that Professor Paxton’s model adopts a biopsychosocial approach to explain risk factors that contribute towards body dissatisfaction. This demonstrates the common ground between appearance psychology and the closely aligned discipline of health psychology which broadly adopts Engel’s (1977, 1980) conceptualisation of the biological, psychological and social determinants of health.

Professor Paxton asserted that social risk factors are the ones that are most susceptible to intervention. These encompass the media, family and peer environments. Professor Paxton highlighted the role the media plays in setting appearance norms. She argued that increased media exposure is associated with a greater intention to diet and the exhibition of greater weight bias, even in children as young as 5 years old. Within the family environment, Professor Paxton emphasised that parents may exert influence and act as models for their children. The significant power of interactions with peers and the impact of teasing and bullying, fat talk and appearance related communications was also noted. The new peer environment existing within social media was singled out as being a novel setting in which peer conversations, comparisons and bullying may occur. Professor Paxton did, however, stress that some peer interactions may be positive, encourage tolerance and acceptance and therefore protect against body dissatisfaction.

The clinical relevance of these social factors was apparent from Ms Cassy Aspinall’s address. This focussed on her work with children who require cleft lip and palate related care. Ms Aspinall described how social factors are routinely assessed and addressed at the Craniofacial Centre in the Seattle Children’s Hospital. Social factors that are integrated into care in Seattle include the families’ composition and its members’ educational, health and socio-economic status as well as the available social support. This highlighted the importance of ensuring that social factors are not ignored and offered an example of how high quality, holistic, multidisciplinary, biopsychosocial care may lead to improved outcomes for patients and their families.

Dr Bryn Austin discussed body image and put forward a compelling argument based on the central tenet that there is a need for large scale preventative public health programmes to reduce the incidence of eating disorders. Dr Austin highlighted that preventative research may be classified into five stages. These stages are not based on the intensity of the intervention but on the stages of research required in order to deliver effective, evidence-based public health programmes.
These five stages involve research that: (i) establishes links between behaviour and public health outcomes; (ii) develops methods of measuring risk behaviour and symptoms measures; (iii) identifies determinants of risk behaviour and symptoms; (iv) evaluates preventative interventions; and (v) evaluates the dissemination of preventative interventions.

Dr Austin maintained that there is a paucity of research at the later stages and believes that to accelerate the progression towards these latter stages and attend to this deficiency it is important for researchers to concentrate upon translational research and engage with policymakers. Steps that Dr Austin argued may assist with this include utilising simulation modelling and integrating health economic analyses and rapid translation into practice within study design. Researchers should, therefore, plan their research and activities with a view to triggering the three conditions that are required to effect changes in the macro-environment and positively impact health. This can be done by establishing a scientific and economic evidentiary base, accounting for relevant practical factors and fostering sufficient political will.

One researcher who is seeking to address the scarcity of research in Dr Austin’s stages four and five and the lack of evaluation and dissemination of appearance based public health programs is Dr Phillipa Diedrichs. Dr Diedrichs presented to the conference on the research she is undertaking in collaboration with the Dove Self-Esteem Project. This ongoing work is evaluating a classroom based intervention aimed at secondary school children and the efficacy of it being delivered in a real world school setting by those involved in the children’s everyday life, their teachers.

Coming from a slightly different perspective, the documentary maker and social activist Mr Darryl Roberts spoke about how his work has entailed working with a well known American clothes retailer to reduce the use of sexualised images within its advertising. Mr Roberts’ message was that people are not powerless and social activism can take many forms and be conducted on any scale.

Mr Roberts’ speech was a refreshing reminder that the world exists, changes and is influenced by people beyond and outside of the research community. Given the increasing need for academic institutions to demonstrate impact and the calls for applied, translational research made at this conference and beyond, perhaps we should all consider who we can engage with beyond our immediate circle of colleagues and collaborators.

The valuable message that I took from the conference was, therefore, that researchers should aim to maintain high academic standards but need to do more to work together with non-academic collaborators to ensure efficacious, evidence based interventions are planned, created, evaluated and disseminated appropriately. Turning to my own research, the conference galvanised my desire to continue in the field beyond my PhD. The work I am doing may pave the way for the development of an intervention that could be offered to those whose intimate lives are adversely impacted by appearance concerns. Keeping this long term goal in mind should help me retain focus for the duration of my current research and remind me that my work has an applied as well as an academic objective.

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**Hints and Tips:**

**Advice for an academic study visit**

Philip I.N. Ulrich

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Studying for a PhD requires learning new skills and building a body of research for a thesis. One way that can facilitate the achievement of these tasks is through a brief study visit to another institution. In this article, I outline some of the key points you need to know when thinking about organising a study visit, including advice and suggestions of how to start the process, how to fund the visit, and how to get started with networking. Here, I also include reflections and examples from my own visit. The core message of this article is to encourage other PhD students to visit the research environment of another institution.

**Why go on a study visit?**

The primary task for a PhD student is to build a body of novel research that comes together to form a coherent and well-formed thesis, yet the primary purpose of a PhD is to develop multiple skills that lead to becoming an independent researcher. It is strongly encouraged, and indeed a necessary component of being a PhD student, to acquire new skills that are relevant to the research being conducted, such as learning Python, advanced techniques in R, MTurk, or how to conduct a meta-analysis. My PhD research combines experimental design with electroencephalography (EEG) and vestibular stimulation (a form of brain stimulation) in order to better understand, and to ameliorate, face recognition impairments (developmental prosopagnosia). I have since accrued significant knowledge in these areas, which places me in an advantageous position when applying for employment that requires these skills. The multiple transferable skills that are gained during a PhD allow access to jobs with more responsibility and independence, but the addition of more specialised skills can help you stand out in a selection process. However, the more pessimistic (or perhaps realistic) view is that my academic employment opportunities are, to some extent, limited to jobs that require such specialised skills. This is particularly the case given the considerable competition currently present for psychology research-based jobs, where having only the impressive baseline skills associated with a postgraduate qualification, or specialised skills that are only roughly related to the person specifications, may no longer receive much consideration. This is because, amongst a high number of applications, an employer may find a candidate that has skills more aligned with those being requested. It is, therefore, fruitful to explore ways to acquire new research skills and techniques, and one way this can be achieved is by organising a study visit to a different institution. This article will present some of my own advice on organising a study visit to learn new skills, and highlights key hints and tips such as how to fund such visits and how to network.

When I started browsing the job market (may I recommend jobs.ac.uk and indeed.co.uk) I noticed a number of jobs that looked interesting and required many of the skills I already possessed, with one exception of fMRI (Functional Magnetic Resonance Imaging) experience. I applied for one of these jobs but was unsuccessful, with feedback stating that there were over 200 applications, many of whom had fMRI experience, and a proportion of these had already submitted their thesis. fMRI is a tool I have always taken great interest in, but my home institution does not have this technology and, given its extortionate cost to buy (around £2m) and operate (around £450 per hour), I presumed that training and
experience in fMRI would be beyond my reach. However, knowing that presumptions can be dangerous things, I began exploring the idea of getting experience through a study visit.

What is a study visit?
A study visit involves going to another institution to conduct research, with the purpose of learning new experimental procedures or running studies that cannot be done at your home institution. These generally last between one and three months, and can be anywhere in the world. The research at the host institution could be tied in with your PhD, but could also be something entirely new for you.

From the people I have spoken to, research visits have provided an opportunity to learn new research skills and techniques, as well as designing and running experiments that utilise these. Study visits can also include presenting and disseminating your own research to an external institution and building reputable contacts. Some of the students from my home institution have gone to Germany to learn EEG, Harvard to learn Transcranial Magnetic Stimulation (TMS), the Department for Business Innovation and Skills to research women’s occupancy on corporate boards, or Scotland to learn police reconstruction software. For my own visit to University of York, learning fMRI principles and then running an experiment was not achievable in one month. This is because the typical timescale for an fMRI study is around nine months. The first three weeks involved learning about the theory, principles and methodological designs of fMRI, as well as revising the programming languages needed to work with the data (including Python, MATLAB, and Bash). Many of these skills were practised using data from scans of myself. The final week involved applying these skills to extract and start analysing data from a recent fMRI experiment. I now outline some hints and tips, with the view of helping fellow postgraduates to organise their own study visit.

Tip 1: Deliberate where and when to visit
The first thing to do is to have a conversation with your supervisor. You should mention why you are thinking about a study visit and why it would be valuable, and then try to obtain some advice from them. This could be regarding what you might gain from the visit, whether it would be worthwhile for you, where might be good to visit, and who else can offer advice about the experience. You should also be considering when would be best to go: Perhaps early on when you are still developing ideas, or later on when you have established a direction for your research, or maybe later still when you are thinking of future directions. However, be mindful to arrive at a decision and not deliberate for too long; this may help motivate you to turn the idea into reality.

Tip 2: Research where to visit
When you have a good idea about what you want to gain from a visit, start looking for institutions that may be suitable. Importantly, you would need to find someone to supervise the visit. When I was searching, I first looked for the people recommended to me and then for reputable names that I knew from my own research. I also looked at some of the publications from other people working in their labs. The best resource for me was each university’s departmental staff web pages, but I narrowed my search to institutions that use fMRI to conduct face-recognition research. If possible, try to create a ranked short-list of around three possible visit locations. This will make it easier if your first choice cannot accommodate a visit.

It was during these searches that I discovered that the University of York had both fMRI facilities and a very large face research group. One particular member of this group, Professor Tim Andrews, had given a talk at a recent Experimental Psychology Society (EPS) conference and I had spoken with great interest to two of his postgraduate students. I was fortunate that the decision of
where to visit was quite clear to me – and was my first choice!

**Tip 3: Making contact**

Once you have decided which institution and supervisor is your first choice for a study visit, you then need to contact them. The email that they receive will be their first impression of you, so it needs to be well-written and professional. Many universities have guides on email etiquette, such as Birkbeck’s ‘Email Good Practise’ (2014) and Bristol’s ‘Email Etiquette’ (n.d.), but generally you need to be courteous, careful and efficient in your message. Key details to include are who you are, why you are interested in their work, and why you would like to visit. You can also suggest activities that you would like to participate in during that visit, and some ideas of possible dates for your visit. If you think it would have more impact, you could ask your supervisor to send it on your behalf (after changing the email from first-person, of course).

Although most people will welcome the visit, be aware that some visits will result in you gaining more than the host supervisor and that some people will not be able to support the visit as they cannot make enough time available to give you a worthwhile experience. Do not let this put you off asking though, as they may surprise you or reply with some excellent alternatives. From my own experience and that of close friends’, research groups and institutions are very welcoming with requests to visit. I chose to send an email through my supervisor (Professor Bob Johnston) to Tim stating that I was keen on gaining some experience with fMRI and asking whether this could be achieved in a study visit with him. Before the day was out, I received a very positive response explaining what could be done, asking when exactly I could start and whether he could do anything to help with funding applications.

**Tip 4: Funding options**

*External sources.* There are several sources of funding available that will help with the costs of travel and accommodation involved in the study visit. The Experimental Psychology Society (EPS) offer a very generous grant of up to £2000, whilst PsyPAG offer up to £200, and the British Psychological Society (BPS) offer up to £600 depending on where in the world you wish to go. All of these options are competitive and you should be applying to all of them to increase your chances of success. Keep in mind, however, that some funding bodies will request a written piece in return. Both the EPS and BPS ask for a short (500 to 1000 words) grant report including details of what you did during the visit and how the activities were of benefit, whereas PsyPAG request that a manuscript (anything from empirical research to a software review) should be submitted to the *Quarterly*.

*Internal sources.* You may also find that your department or faculty are willing to help with some of the costs and, depending on how your PhD is funded, you may also be able to extend your scholarship to cover the time you are away. You may wish to consider, if you can, arranging a visit regardless of securing external funding and instead view the experience as an investment.

**Tip 5: Networking**

To suggest that what can be gained from the study visit is purely skill-based would be a gross understatement. Wherever you choose to visit and whatever skills you aim to learn and develop, you will be networking. I, like many others, find networking difficult. It is a skill that takes time to develop and is an invaluable part of growing as an academic. Several online guides of networking methods and the advantages of these are available (e.g. Armstrong, 2007; ‘Essential Skills’, n.d.). From my own experience, the number one objective is to talk to other people. It can be about anything, ranging from intricate methodological problems of
the person’s latest paper, to what they think of the nearby seating arrangements. Be bold and just talk. By doing this, you are building a connection which could (hopefully) move onto discussing what research you do, or simply allow easier conversation when you meet them next. Sometimes it can be daunting to start networking, but I have found that making the effort to talk to fellow researchers, even by just saying hello or paying a compliment, can be very rewarding.

On a research visit, it is possible to create situations that encourage conversation and so help get the most from a visit. For example, you could ask to be a participant in experiments, go to the common room for lunch, find out if you can attend some lab meetings, join others for a drink after work, offer a friendly hello when passing someone, or simply ask others for help. You may not know if and when you will see that person again, but I have been surprised how often I meet these people again at conferences, and they could very well be your next collaborator, or even employer.

While I was at York, I was fortunate to meet prolific professors and some of the biggest names in psychology such as Alan Baddeley (cited over 130,000 times; Google Scholar) and Andy Young (cited over 36,000 times). Being in lab meetings with the research team that created many of the papers I will be citing in my thesis was humbling, exciting, and inspiring. We discussed my own research and developed new ideas for the near future, and I have met them at conferences since my visit and spoken like old friends.

Conclusion
For anyone who has not heard of study visits, or for those who are considering it, I would strongly encourage you to partake in this experience. You will feel the research atmosphere of another university, be involved in cutting edge research, and learn about new research you may not have been aware of. After one month in York, I have gained exclusive experience in powerful research techniques, built connections in the research community, developed new ideas, made new friends, created lifelong memories, and developed a taste for fine Yorkshire ale. The study visit is a highlight of my academic life so far and this would not have been possible without the PsyPAG study visit bursary I was awarded.

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STATISTICS are a fundamental tool for psychologists when interpreting data and making inferences. Null hypothesis significance testing (NHST) dominates the field and progressively more people are beginning to ask whether we are using the best statistical methods available to us or if we could be doing something better (Dienes, 2011; Rouder et al., 2009; Wagenmakers, 2007).

A thesis is the perfect opportunity to use alternative methods to analyse your data. Increasingly, journals are becoming more open to the use of Bayesian statistics in articles (Dienes, 2011; Wagenmakers, 2007). Using Bayesian statistics in your thesis not only helps to promote its general use in research, but it will allow you to interpret your data and results from a logical and rational viewpoint.

By considering some of the issues associated with frequentist statistics, it is evident that Bayesian approaches provide a viable alternative. Furthermore, if more students implement this approach in their thesis, the field will benefit from a more rigorous implementation of statistics and the student will benefit from being able to make clear interpretations of their data and the strength of evidence for their hypotheses.

Imagine that you want to test the hypothesis that more people drive to work when it is raining compared to when it’s sunny. You conduct a survey over an equal number of rainy and sunny days. Now you have your hypothesis and your data, are you most interested in determining (a) the probability that people drive to work more when it’s raining given the evidence you have about their commuting habits? Or (b) the probability your data is a true sample of the population given your hypothesis that people drive to work more when it’s raining? Most often as researchers we are interested in (a) the probability the theory is true given the data we have observed. The question is then, which statistical tools, are most closely aligned with our interests as researchers? If we are looking to find strength of evidence for or against a hypothesis then Bayes Factors are the answer. In contrast, classical approaches do not allow us to do this. When interpreted correctly, we can use a test statistic to determine how likely a value is if there is no effect in the population. If the likelihood of that value is above our alpha level, we attribute it to an effect in our data and it is statistically significant. However, this is based on probabilistic reasoning and so we cannot infer how likely our theory is given our data.

Using Bayesian statistics we can specify an alternative hypothesis and accumulate evidence in favour of both the null and the alternative hypothesis. This evidence is expressed in terms of the probability of a hypothesis conditional upon the observed data and the evidence is not affected by sample size. Although the strength of evidence for either hypothesis may increase with sample size, this increase is not biased towards either hypothesis. Finally, for small sample sizes, where it is hard to differentiate between approximate and exact invariance, Bayesian statistics allow us to determine a strength of evidence for the null hypothesis.

Non-significant results are usually ignored due to publication bias, which in turn biases our view of a field (Dienes, 2011).
Using Bayesian methods, all data is used to determine a strength of evidence from an entire body of research (Dienes, 2011).

What are Bayes Factors?
The Bayes Factor provides us with an alternative to NSHT, put simply it allows us to state evidence in favour of one scientific theory over another, where the theories are represented by statistical models. NSHT is based on the assumption that we have a theory in place and we are looking to test the data with regards to that theory. In reality people are often doing exactly the opposite; they are looking to find out the probability that a theory holds true given the data that they have found.

The advantage of the Bayesian method is that it is conditioned on the data that has actually been observed. The prior odds describe what we already believe about the state of the world and the degree to which we believe one hypothesis over another. This is essentially the plausibility of one hypothesis over the plausibility of another. When calculating Bayes Factors you can either set your prior odds automatically, by using he default distribution, usually a Cauchy distribution or you can base them on previous data (for more information on priors see Rouder et al., 2009). For example, if you were conducting a replication study, you could use the findings from the original study to inform your priors.

The posterior odds are how much we favour one hypothesis or model over another, once we have seen the data. As mentioned earlier this is the evidence in favour of our model given the data we have observed.

\[
\frac{P(H_1)}{P(H_0)}
\]

In order to get from the prior odds to the posterior odds, we need to update our prior odds in light of the data we have observed. This can be done according to Bayes Theorem. The prior odds are updated by the likelihood distribution.

\[
\frac{P(H_1|D)}{P(H_0|D)} = \frac{P(D|H_1)}{P(D|H_0)} \times \frac{P(H_1)}{P(H_0)}
\]

‘The Bayes Factor is the relative evidence in the data. The evidence in the data favors one hypothesis, relative to another, exactly to the degree that the hypothesis predicts the observed data better than the other.’ (Morey, 2014)

A Bayes Factor can be described as the change from the prior to posterior, brought about by the data and can be expressed by the following (Jeffreys, 1961).

\[
\frac{P(H_1)}{P(D|H_0)}
\]

Most of the time we don’t specify the prior odds in detail; this doesn’t pose a problem for Bayes Factors so long as we can specify their probability distribution (for a discussion on priors see Wagenmakers, 2007).

Using Bayes Factors
There are several online tools and downloadable Matlab code you can use to calculate Bayes Factors (Dienes, 2008), or you can use the Bayes Factor package in R to compute t-tests (Morey & Rouder, 2011; Rouder et al., 2009), regressions (Rouder, Morey & Province, 2013), ANOVAs (Rouder et al., 2012) and model comparisons using the Bayesian Information Criterion (Wagenmakers, 2007). Bayes Factors indicate the strength of evidence in the data for competing hypotheses. It is, however, important to remember that they indicate a relative strength of evidence for one hypothesis over another.

In order to state degrees of evidence, Jeffreys (1961) suggests that we can interpret odds greater than 3 as some evidence, odds greater than 10 as strong evidence, and odds greater than 30 as very strong evidence for a particular hypothesis compared to an alternative.
Issues with Null Hypothesis
Significance Testing

There are several major concerns about the use of \( p \)-values in psychological research. Here I will summarise several of the problems that researchers have identified (Rouder et al., 2009; Wagenmakers, 2007).

1. Subjective intentions

Accurately applying NHST requires us to abide by certain rules such as deciding on a sample size for a study before testing and not altering this value regardless of our results. A student desperate to get that first publication may well be tempted to test another 10 or 20 participants to take that \( p \)-value from non-significant to significant.

In the use of post-hoc comparisons, you may find an unexpected effect after conducting your study - it might be tempting to report these findings as if you had intended to test for this effect, but instead you have to make the necessary post-hoc corrections and ignore the finding. In order to use NHST correctly, you need to have a clear research plan regarding your sample size and analysis. But these choices you make are somewhat arbitrary – potentially if you had originally decided to test more people you would have obtained a significant result. Similarly, if you had a theoretical reason to run a planned comparison, then your analysis would be justified. If you have found an effect, whether you decide to test for it a priori or post hoc could completely depend on whether you had read a particular paper.

These are just some of the ways in which \( p \)-values are dependent on the researcher’s subjective intentions often concerning hypothetical scenarios (Wagenmakers, 2007).

These issues are extremely relevant given findings that many psychological researchers are not fully aware (Dienes, 2011).

2. Evidence in favour of the null

One of the greatest drawbacks of \( p \)-values is that we cannot use them to state evidence in favour of the null and consequently we tend to overstate the evidence against it (Rouder et al., 2009). To illustrate this point we only need to look at how \( p \)-values are influenced by sample size. NHST is consistent when the null hypothesis is false; the test statistic will increase and \( p \)-values will converge to zero as the sample size increases (Rouder et al., 2009). This means that for a true effect, increasing the sample size will result in a gain in evidence against the null. The problem occurs when the null is in fact true. The test statistic does not increase and \( p \)-values are uniformly distributed, meaning an increase in sample size does not lead to increased evidence in favour of the null – therefore, given enough time and money, you could eventually test enough participants to obtain a significant \( p \)-value. The nature of NHST means that we are not able to state evidence in favour of the null. Furthermore, these statistics tend to overstate evidence against the null and may be an exaggeration of the evidence for a given effect (Rouder et al., 2009).

3. \( p \)-values and statistical evidence

One of the primary concerns with the use of NHST is that \( p \)-values are used to constitute statistical evidence (Wagenmakers, 2007). If a \( p \)-value is to be treated as strength of evidence then it should hold true that identical \( p \)-values offer the same level of evidence. This is not the case, however, as a \( p \)-value is influenced by both the sample size and the effect size. By this reasoning, for two experiments with the same \( p \)-value the experiment with the smaller sample will constitutes greater evidence against the null hypothesis, due to a larger effect size (Wagenmakers, 2007).

Conclusion

Bayesian statistics provide a consistent and robust approach to analysing experimental data. Using Bayes Factors we can state evidence either in favour of or against our experimental hypothesis. The nature of Bayesian statistics and Bayes Factors ensures that their validity is not dependent on researchers’ intentions. Including Bayes
Factors in your thesis ensures that you take into account all of the evidence when interpreting your data and making conclusions about its contribution to your area of research.

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Discussion paper:
‘School ready’: Conceptions, definitions and measurement
Nikhil Darshane

In light of recent government reports (e.g. Allen, 2011), a great deal of attention has been drawn to the importance of early childhood experiences that allow children to be ‘school ready’ by age 5. But what does ‘school ready’ actually mean? To set the scene, in the first section I shall begin by introducing competing conceptions of school readiness. These divergent nativist, environmentalist, social constructivist and interactionist views of readiness will help inform the difficulties in defining school readiness. In light of the Early Years Foundation Stage framework in England, in the second section, school readiness will be defined as a function of inheritance and experience that drives behavioural and academic readiness. Distinguishing school readiness into behavioural and academic components, in the final section I shall discuss the issue of measuring readiness, particularly focusing on the importance of population-level measures and understanding informant differences.

Conceptions of school readiness
Readiness has been long discussed in the context of educators requiring a rudimentary understanding about children’s abilities at the point of school entry. Particularly in the wake of Edward Thorndike and others involved in testing draftees during World War I, educators in the early 20th century were keen to develop measures that could assess children’s abilities. In turn, a range of conceptual views navigated the instrument design for assessing readiness.

Traditionally, a nativist view of readiness posits that children are ready to learn when they reach a level of development that allows them to sit still, concentrate, appropriately engage with peers and follow instructions from adults (see Meisels, 1999, for a review). However, this view ignores input from the environment, whether it is parental, societal or economical. Under this view, the educator is assigned to nurture the child’s natural developmental readiness to learn. Contrary to this nativist view of readiness that acknowledges the fluid nature of readiness to learn, the environmentalist model focuses on cognitive and linguistic skills that are culturally transmitted and are precursors to successful school experiences (Kagan, 1990). Based on the absence of specific skill sets in the US, this model was widely used to categorise children that would benefit from specialist instruction or year-long remedial programmes. While both nativist and environmentalist models focus on the child as the unit of assessment, Graue (1992) proposed a social constructivist model that identified readiness as a construction of the participants (i.e. families, schools, and communities) engaged in the preschool experience. Thereby acknowledging the community as the lens through which the child should be assessed. In more recent times, the prevalent perspective on readiness can be described as interactionist. This model views readiness as a bidirectional process between the abilities that children bring with them to school, and the extent to which the environment (both the school and the home) scaffolds the individual needs of the child. Compared to the nativist, environmentalist and social constructivist models of readiness, the interactionist view neatly reor-
ganises opposing ideologies to coexist, such that children’s skills at the point of school entry are a combination of inheritance and experience (Meisels, 1999).

Towards a definition of school readiness
Due to these four conceptions of readiness, a broadly accessible definition of school readiness remains elusive. However, since the introduction of the Early Years Foundation Stage (EYFS) framework in 2008, there has been growing appreciation for the notion of healthy development under an interactionist framework. Supported by data from EYFS child assessments that promote dialogue between parents and children at age 2 and age 5, a number of government reports have identified children’s personal, social and emotional development, as well as their communication and language skills as the bedrock for optimal life chances (Allen, 2011). These components of healthy development can be broadly split into dimensions of academic readiness and behavioural readiness.

Thinking about academic readiness, Vygotsky’s (1986) work on the zone of proximal development suggests a child can learn independently up to a point, but requires scaffolded learning experiences from caregivers to reach his or her true potential. Combining such learning experiences with executive functions that also allow children to plan, monitor and co-ordinate their behaviour, further stimulates a range of reasoning capacities important for school readiness (Whitebread & Bingham, 2011).

Behavioural school readiness concerns aspects pertaining to daily routines as well as the broader home learning environment. Routines including bedtimes and mealtimes are powerful organisers of family behaviour and serve as protective factors that establish security, trust and independence in toddlers. These routines have been shown to regulate child behaviour, evidenced by children exhibiting fewer sleep problems and disruptive behaviours (Bates et al., 2002). Sleep problems and disruptive behaviours are both important indicators that educators consider during readiness assessments.

In sum, appreciating the combined influence of inheritance and experience on children’s academic and behavioural skills at the point of school entry, affords the opportunity of measuring changes in those domains as children start the transition to school.

Measuring school readiness
Having discussed the different conceptions of school readiness, as well as academic and behavioural components that contribute to school readiness, the next step to consider is how readiness is measured. Noting the discourse by Tinajero and Loizillon (2012) on a Holistic Early Childhood Development Index, two issues relating to measurement merit discussion: first, capturing development at the population level, and second, comparing differences in parent-teacher report on children’s readiness. These two issues will be presented with reference to two instruments. One, the Early Development Instrument (EDI; Janus & Offord, 2007), a widely used 107-item teacher report rating system for 5-year-old children. And two, the Brief Early Skills and Support Index (BESSI; Hughes, Daly, Foley, White, & Devine, 2015), a novel 30-item teacher report rating system for both school age children and preschoolers.

Capturing development at the population level
Taking the first issue of capturing development, a population level measure of readiness allows for comparison between how distinct groups of children perform at the point of school entry. Such a measure is pivotal when considering regional demographic characteristics such as deprivation that may explain differences in performance at the point of school entry (Tinajero & Loizillon, 2012).

With regards to the EDI, it is widely recognised as a psychometrically sound diagnostic tool, which has to date been
administered in a population of 16,000 4- and 5-year-old Canadians (Janus & Offord, 2007), and adapted in an Australian census of 5-year-olds (Brinkman et al., 2013). In both the Canadian and Australian samples, children with developmental delay were identified based on scores that were in the lowest 10 per cent. Given the wide scale adoption of the EDI for diagnosing developmental delay at a macro-level, communities have a reliable tool for assessing their capacity to support families. This level of assessment has been shown to be essential for informing policy and best practices at both the local and national level (Tinajero & Loizillon, 2012).

The BESSI (Hughes et al., 2015) is a novel population level instrument markedly distinct from the EDI in three important ways. First, in terms of administration time, with 107 items the EDI takes teachers at least 20 minutes per child to complete. Hughes et al. (2015) designed the BESSI to include 30 distinct items that substantially reduce administration time. Second, the EDI was designed for a Canadian sample with a mean age of 5.5 years. Out of the 107 EDI items, a significant number were deemed inappropriate for children under 4 years (Brinkman et al., 2013). By design, the BESSI can identify children in need of support between 2.5 and 5.5 years. Third, the EDI ignores the influence of family support variables. With a growing evidence base associating early childhood stress with development delay (Allen, 2011), the BESSI incorporates a six-item subscale that targets teachers’ perceptions of family support. Evidencing the importance of the family support scale, Hughes et al. (2015) found that higher problem scores on family support predicted problem scores on items relating to behavioural adjustment, language and cognition, and daily living skills.

As it stands, the BESSI addresses important limitations of the established EDI, particularly with its potential to identify younger children in need of extra support. The BESSI also has sound psychometric properties and in light of its brevity, opens the possibility of wide scale adoption that will help establish the sensitivity and specificity of the instrument.

Comparing differences in parent-teacher reports of children’s readiness

In building an instrument indexing children’s readiness, a key issue to consider is informant differences between parents’ and teachers’ self-reports. Both informants have been known to differ by their ability to observe behaviours of interest, differentiate and discriminate between behaviours of interest and provide unbiased data (Coie & Dodge, 1988). On the issue of unbiased data, whereas teachers are prone to relational bias, Ertem et al. (2008) have argued that caregivers may not have an appropriate point of reference for knowing children’s developmental trajectories and are therefore more likely to endorse socially desirable statements. This is supported by a meta-analysis that compared parent-teacher ratings on the Child Behaviour Checklist and demonstrated a weak correlation of .27 (Coie & Dodge, 1988). Discussing this low correlation, the authors argued that the discrepancy between informants did not necessarily represent genuine disagreement, but was more indicative of context specificity, with children exhibiting different behaviours at home and at school. With regards to school readiness, research surveying parents’ and teachers’ beliefs about readiness has revealed that parents, in general, placed greater importance on academic readiness (e.g. the ability to name colours, objects), whereas teachers placed greater emphasis on behavioural readiness (e.g. the ability to calm down) (Barbarin et al., 2008). In sum, combined with generally low levels of agreement between parent-teacher reports of child development, and differing perceptions of readiness, it can be hypothesised that parents and teachers are likely to demonstrate marked discrepancy on children’s behavioural readiness.
Testing this hypothesis with the emotional maturity subscale in the EDI, in a sample of 82 families with a mean age of 5.6-year-old children, Janus and Offord (2007) found a weak parent-teacher correlation of .36. A similar issue seems to exist with the BESSI behavioural adjustment subscale. For example, my own preliminary analyses utilising a sample of 246 families with 5-year-old children revealed a weak parent-teacher correlation of .32. Taken together, this research, therefore, suggests that parent-teacher readiness ratings demonstrate marked discrepancy. Weak agreement between parents and teachers is a relatively common phenomenon that remains poorly understood. It is important to note that disagreement does not indicate risk, and researchers actively advocate employing a multi-informant, context-specific measure when considering additional support for children (Carter, Briggs-Gowan & Davis, 2004).

Conclusions
In sum, school readiness is a multifaceted construct driven by nativist, environmentalist, social-constructivist and interactionist models. These models all come with strengths and weaknesses, and indeed make an accessible definition of school readiness elusive. However, with government policy increasingly appreciating the combined influence of inheritance and experience, school readiness can be defined as a function of behavioural and academic readiness that children carry with them to the first day of school. In terms of measurement, both the EDI and the BESSI aim to capture development at the population level. Such macro-level measures allow for nationwide comparisons that can inform policy changes. Whilst the EDI is well established, it has notable limitations that the BESSI addresses, particularly its potential for employment in children aged 2.5 upwards, as well as the unique family support subscale. When comparing differences in parent-teacher report, both instruments replicate previous work that demonstrates weak agreement between informants on children’s behavioural readiness. Whilst disagreement between informants is a common phenomenon in child development research, when considering additional support at the point of school entry, dialogues between teachers and parents should be emphasised as part of the Early Years Foundation Stage framework.

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SUCCESSFUL social interactions and the development of interpersonal relationships are reliant on corporeal cues such as facial expression, body posture, attractiveness and sex. These physical indicators provide context to language and emotion, enriching empathic understandings of each other that seem to have driven the evolution of our species.

Although bodies and faces are visually different they do share common features; both are generally symmetrical and composed of essential sub-parts, of which person-specific recognition relies on size and shape judgements. Neuropsychological literature to date has been dominated with the discussion of how human faces are processed (Minnebusch & Daum, 2009). There are two main positions with regards to this debate, one being the ‘face specificity hypothesis,’ which proposes that there is a specialist network of brain regions dedicated to face recognition (Kanwisher et al., 1997). Conversely, it could be that these neural networks are concerned with expert processing rather than face-specific processing according to the ‘expertise-hypothesis’ (Diamond & Carey, 1986). In accordance with this face processing debate (see Gauthier & Bukach, 2007) similar questions are beginning to be addressed with regards to body processing. Although it seems that the expertise hypothesis has not yet been investigated for bodies (Minnebusch & Daum, 2009), research has begun to focus on whether there are distinct neural networks dedicated to processing the human form (see de Gelder et al., 2010).

This article will critically consider whether the visual processing of human bodies is distinctive in the brain and whether this process is dissociable from visual face recognition. In order to do so, a careful examination of empirical evidence from key studies investigating the time course and neural correlates of body processing will be presented. Therefore, for the purposes of this discussion, body processing should be understood as the process by which the human brain distinguishes bodies from other non-corporeal stimuli and faces on the basis of visual information. With regards to cortical representations of the human body, many brain regions have been implicated (for reviews see de Gelder et al., 2010; Minnebusch & Daum, 2009). However, the scope of this discussion is limited and as the intention is to assess whether visual body processing may be modular, the focus shall be on extrastriate body area (EBA) activity because this region is thought to respond distinctively to images of the human body (Downing et al., 2001).

Downing et al. (2001) were the first to identify body-selectivity in the EBA with a series of functional magnetic resonance imaging (fMRI) experiments that were designed to investigate cortical body processing. In the first study, the EBA was found to elicit a significantly stronger response in all 19 participants when viewing images of static human bodies and body parts in comparison to inanimate objects and their parts. A further five studies were dedicated to assessing the response profile
of this region. Consequently, they aimed to evaluate whether the observed effects were specific to bodies or whether there were low-level visual features or structural properties of the body’s form that may be responsible. Thus, participants were shown photographs, silhouettes, and stick figures of the human body in comparison to faces, face parts, mammals, whole animated objects, object parts and scrambled body silhouettes and stick figures. They found that in all conditions, including the presentation of human faces, EBA showed greater activation in response to body stimuli. Specifically, they found that low-level visual properties of the human body were not responsible for increased activation, as EBA response was still larger to line drawings of the body in comparison to control stimuli. In addition, EBA did not respond generally to objects that, akin to bodies, were structurally defined by sub-parts connected at flexible joints, such as scissors. Consequently, Downing and colleagues concluded that EBA selectivity for human bodies was not a result of structural or low-level visual features of the human form and could not be generalized to images of the human face. Moreover, they did not find any anatomical overlap between the EBA and other areas that were previously identified as being visually selective, such as the fusiform face area (Kanwisher et al., 1997). Therefore, these findings were the first to suggest a distinct, specialised region in the human visual cortex for the visual processing of human bodies.

Although Downing et al. (2001) suggest that EBA activation is indicative of mechanisms for body processing that are distinct from face processing, the body stimuli that they presented included the head. It has been shown that even contextual cues are enough to elicit object-specific neuronal responses in human visual cortex (Cox et al., 2004) and thus, it is possible that the presence of facial cues in Downing et al. (2001) could have activated face-specific mechanisms. Additionally, despite EBA activation being less for the whole face in comparison to body parts, activation for face parts was similar to that of body parts. It is, therefore, unclear as to whether the combination of the body and head was critical for the reported effects or whether the results do indeed reflect distinct body-processing mechanisms.

Nevertheless, Morris et al. (2006) provide supporting evidence for a modular distinction between bodies and faces. In an fMRI study, they directly compared the effects of ‘body-only’, ‘face-only,’ and ‘body-face’ conditions by presenting participants with static images of a lecture hall in which they viewed actors in various positions. In the ‘body-only’ condition, the actor stood in front of a lectern holding an open book in front of his face, whilst in the ‘face-only’ condition he sat behind the lectern, which occluded the body. In the ‘body-face’ condition he stood leaning on the lectern. They found that EBA activation was strongest when participants viewed the body without the face; moreover, inclusion of the face decreased EBA activation. Although in line with Cox et al. (2004), it could be argued that the open book may have served as a contextual indicator of the head. If this was an influential factor then EBA activation should have been equal or similar to the ‘body-face’ condition. As this was not the case, and in fact responses decreased when the face was included, then again when only the face was visible, this indicates that the body is the critical factor for EBA activity, as suggested by Downing et al. (2001). Moreover, these results have methodological implications for studying neural representations of the body. Although it has been argued that headless bodies are not naturalistic stimuli (Minnebusch & Daum, 2009) it appears that inclusion of the head impedes body-specific processing, at least in the EBA. Therefore, future research in this area might benefit from presenting headless body stimuli, perhaps until there is a confident understanding of body processing mechanisms as separate from face processing.
Findings from Thierry et al. (2006) also provide support for distinct body processing mechanisms in an investigation that aimed to characterise the electrophysiological response to bodies. They hypothesised that given the extensive research in support of the face-selective N170 event-related potential (ERP) component, there could be a body-selective ERP waveform with a similar scalp distribution. In order to test this, they conducted two experiments whereby 12 participants were shown photographs, silhouettes and line drawings of the human body (without the head) as well as faces, objects, and scrambled silhouettes and line drawings depicting the human form. They found that in comparison to faces and other objects, the human body stimuli elicited a larger negative component that occurred 190ms after stimulus onset (an N190). Whilst they report that this N190 response was similar in amplitude to the N170, they clearly state that it occurred significantly later.

As early visual ERP components are reportedly affected by attention (Hillyard & Anllo-Vento, 1998) it could be that the non-naturalistic appearance of the body without the head was responsible for this latency difference. However, not only did this response generalise across photographs, silhouettes and line drawings of the body, but different topographies for the N190 and the N170 as well as different ERP microstates for faces, bodies and objects were found. Accordingly, these findings strongly indicate an electrophysiological dissociation between bodies and faces. In addition, the intact stick figures and silhouettes of bodies were found to evoke larger N190 amplitudes than their scrambled counterparts suggesting that the response also generalises to schematic depictions of the human form. Furthermore, taken together with the source of the N190 having been tentatively localised to the EBA, these findings support those of Downing et al. (2001) and Morris et al. (2006).

Evidence for category-specific modular processing also comes from category-selective neuropsychological deficits. With regards to face processing, there is the well-known face-blindness deficit called prosopagnosia, which is a disorder characterised by the inability to recognise and/or perceive faces (Meadows, 1974). Thus, if like faces, bodies are to be accepted as ‘special,’ a form of body-blindness might also be expected. However, as no such disorder has been identified, this fuels an argument against specialist mechanisms devoted to the visual processing of human bodies (de Gelder et al., 2010).

Nevertheless, concurrent with the argument that headless bodies would be non-naturalistic stimuli, it might be unrealistic to assume that body-blindness would present itself as obviously as face-blindness. This is because when identifying an individual, it is rare to do so on the basis of the body alone, often the presence of the face is an influential factor. Accordingly, there is evidence that developmental prosopagnosics also have difficulty with configural body processing (Righart & de Gelder, 2007). Thus, body-recognition deficits might present themselves so subtly that they are undetected unless problems with face-recognition are also present.

A repetitive transcranial magnetic stimulation (rTMS) study by Urgesi et al. (2004) supports this theory. During stimulation that inhibited EBA activity, participants were asked to complete a blocked, two-choice matching-to-sample task whilst viewing body, face and object stimuli. It was found that inhibiting EBA activity resulted in a clear impairment in discriminative reaction times for body stimuli but not for faces or objects. These findings, therefore, strongly imply that EBA functioning is not only associated with specialised categorical processing of human bodies, but is necessary for it. Furthermore, this strengthens evidence for specialist body processing mechanisms within the visual cortex. This is further supported by studies that have found body form recognition to be impaired in patients with EBA lesions (for a review see Minnebusch & Daum, 2009) whilst clinical studies
of participants with anorexia nervosa (AN) report that the EBA is underactive (Uher et al., 2005). The DSM-5 highlights that diagnostic criteria for AN include disturbance to the way in which the body’s weight and shape is experienced, alongside an undue tendency to exaggerate the importance of weight and shape on self-evaluation (American Psychiatric Association, 2013). Therefore, body-processing deficits may not manifest as body-blindness in the same way that prosopagnosia does face-blindness, but perhaps as symptoms of body image disturbances. In order to test this, ANs with an underactive EBA should complete a similar task to that from Urgesi et al. (2004), with the hypothesis that they may show selective impaired discriminative reaction times for body stimuli in comparison to controls.

This article has critically assessed some of the key studies that have investigated the differences between body processing and face processing, with the aim to discern whether the cortical processing of bodies is specialised and distinct from face recognition. With regards to the evidence presented it seems that body processing, especially in the EBA, can be dissociated from face processing. Furthermore, studies investigating the cortical representation of the body should carefully consider the motivations for including the head when presenting whole body stimuli, as this might not be wholly reflective of body processing mechanisms. In addition, despite there being a lack of evidence for ‘body-blindness’ in the same way as prosopagnosia reflects face-blindness, evidence is indicative of body processing impairments that may perhaps manifest as symptoms of body image issues. Therefore, evidence from EBA activity suggests that cortical body processing is ‘special’ and is distinct from face processing.

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FOR QUALITATIVE PSYCHOLOGISTS, the researcher’s primary focus is the exploration of non-numerical data, which is often guided by a theoretical or epistemological framework (for example, social constructionism, c.f. Burr, 2015). Handling and interpreting large amounts of textual and visual data can be difficult for qualitative psychologists. Using software to systematically organise qualitative data can ease this process (Smith & Hesse-Biber, 1996). ATLAS.ti is one example of proprietary software that can assist in conducting qualitative data analysis. For instance, it can help the researcher to maintain rigour in their analysis by making it easy to record the steps taken to organise and analyse the data, thus saving the researcher time (Hwang, 2008).

To provide some context, ATLAS.ti was founded and developed in Berlin by Thomas Muhr (1991, 1993) and is a Computer-Aided Qualitative Data Analysis Software (CAQDAS). There are many software programmes in the CAQDAS genre, such as NVivo and MAXQDA, and each programme offers different user interfaces and styles to suit the researcher and their project. Although Hwang (2008) offers a practical guide for students wanting to utilise ATLAS.ti, there is currently little literature reviewing ATLAS.ti for use and application in qualitative psychology. This review aims to provide an overview for utilising ATLAS.ti in qualitative psychology research. Specifically, I will explore some of the top features of ATLAS.ti, describe the help and support that is available and make a case for employing ATLAS.ti in qualitative research.

Top features
ATLAS.ti has a multitude of features, but the top features are the Hermeneutic Unit (HU) and two key tools that can be used within this to explore qualitative data with ease. Firstly, when you load ATLAS.ti you are immediately exposed to the HU. The HU is the space for the whole research project where documents, quotes, codes, code groups, networks (visual maps of qualitative data), and memos are loaded. The HU acts as a workspace where the researcher is able to explore, edit and interpret all of their data in one area, and it is incredibly useful for seeing your data both in depth and breadth. Within the HU, the researcher can include multimedia and multiple documents that can be explored simultaneously. This is particularly useful if researchers are using video data and want to view video and textual data side-by-side. Another unique feature of ATLAS.ti is the ability to capture data using a tablet or mobile device and directly import this data into the HU. This is particularly helpful when capturing ethnographic data in situ.

However, one challenge with ATLAS.ti is that the Windows and Mac versions of ATLAS.ti vary somewhat in the functions that are available in each, and there are differences between the two with regards to user interface and navigation when using the HU. This can be a limitation if you are working as part of a research team where team members are working on the same project data using ATLAS.ti on different operating systems. This can be problematic as a researcher using the Mac version of ATLAS.ti may not be able to transfer ATLAS.ti analyses and data to the Windows version. However, forthcoming updates aim to address and resolve these issues.
Secondly, within the HU the researcher is able to produce a Network View (NV). The NV allows the researcher to construct a visual map of their textual data interpretations. This may be particularly useful in generating a graph of your coding framework or even a particular aspect of your analysis. Qualitative psychologists may often have a high volume of qualitative data (e.g. transcripts) to manage and explore, and the ability to view these in the NV can be particularly helpful to gain a comprehensive graphical overview of the data.

Thirdly, within the HU the researcher can explore data using the Query Tool (QT). This is iconicised in the programme as a pair of binoculars and allows the researcher to search, query and extract data across the whole HU so that it can be explored laterally. The QT also enables data to be filtered by how written and visual data are coded and which documents they are in. A ‘query’ in ATLAS.ti can be described with a search expression (e.g. using AND, OR, etc.) to define the conditions that a quotation (i.e. selected data that are assigned to a code) has to meet in order to be included as a result. The results (the quotations) of these searches can then be used to identify extracts of data for further analysis.

Help and support
ATLAS.ti offers various training programmes for researchers to learn how to use the software. Such training can be done online and is usually free. Alternatively, you can attend a face-to-face workshop to introduce you to using the software for your research. There are also Certified ATLAS.ti Student Trainers (CAST) that can provide basic first-step instruction to new users; if you have a CAST at your university they should be able to help you learn how to get started using the software. There is also an online forum (ATLAS.ti, 2015) that is free to use and can be useful if you have any questions or are troubleshooting a problem.

Summary
In this software review, I have discussed the top features of ATLAS.ti that as a qualitative researcher could be revolutionary for facilitating a smooth running of your analysis. As a CAST and user of ATLAS.ti for my own research, I have been able to manage large amounts of qualitative data, and utilising the QT and NV has saved me time in the interpretation of my data. This review builds the case for ATLAS.ti as a contender to other qualitative data analysis software and highlights the benefits of using ATLAS.ti as a way of working with large amounts of data with ease whilst maintaining rigour and quality in qualitative psychology research.

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Hello Anne! Perhaps to begin with you can tell me a little bit about your current role.

My current role is a rather grander title than the role in reality, because of limited scope of the physical health psychology services and resources. I work clinically in psycho-oncology and the chronic fatigue syndrome team. My role also involves the leading and management of this speciality and I see the development of these services as absolutely key. Over the years a lot of my time has been spent in discussion with commissioners and relevant stakeholders to try and look at development opportunities in the specialty as a whole.

I will certainly ask you some more about developing this service, but I wonder if first of all you can tell me how you came to work in this field?

I have had a very long-term interest in health issues. Looking back, I think it stems from my father completing his medical training when I was young – he often came home and talked about medical things, and it planted a seed. He also used to keep a skeleton behind the sofa, and we used to get her out every now and then, figuring out how she fitted together – it really inspired a fascination. Alongside that, my father used to speak positively about a lady called Dame Cecily Saunders, who at around the time of his training was just setting up the first hospice and whom he had the good fortune to work with. Although I was very young, it started me thinking about how fascinating and how positive it could be to work within a palliative care setting. I grew up thinking I would probably study medicine but I realised in my mid-teens that it wasn’t medicine per se that I was interested in but rather the psychological side – why some people get ill and others don’t, why some people get better more quickly and the kind of factors that affect coping and recovery. I wanted to look more closely at the interplay between the biological and psychological factors in health, the role of personality and life experiences and so on. I therefore completed my clinical psychology training, and chose placements in my final year in medical psychology and in neuropsychology.

In my first job as a qualified psychologist, I was fortunate because I was able to work in an adult psychology service but dedicate some of my sessions to behavioural medicine. That enabled joint work with the local pain clinic as well as being able to accept various physical health psychology referrals. I specialised later in neuropsychology, enabling a much greater focus on health and working with individuals with long-term physical health conditions – multiple sclerosis, head injuries, degenerative disorders, and so on. I was also given the opportunity to work within oncology and with chronic fatigue syndrome as part of this neuropsychology service, and this has since developed into a separate speciality.

Dr Anne Abey is a qualified consultant clinical neuropsychologist, and is currently Head of Physical Health Psychology Services in Lincolnshire. She supervised me as a trainee clinical psychologist on placement earlier this year. I was inspired by her passion and enthusiasm for this field, and felt that her knowledge of this upcoming area of work would be interesting and useful for other psychology graduates to hear about.
So how did that development take place?
When I qualified in 1988, my passion had always been physical health psychology but I was surprised at how welcoming many doctors were of somebody wanting to work in this field. I set up meetings with various consultants and was amazed by how positive they were. I must admit I was surprised by this reaction, anticipating that they would need some encouragement, but they were incredibly keen from the start. Our small psycho-oncology service developed out of an audit we undertook looking at the psychological needs of cancer patients. It was recognised to be unfair to ask about the need and, if substantial, to then ignore it, so a small amount of funding was found to allow us to offer a clinical service. With our chronic fatigue syndrome service, this came from us putting in a bid to establish a service when there was a government initiative to support the development of these services in the early noughties. There was recognition and backing from our trust regarding the importance of psychological work within physical health and so the specialty was developed.

Securing the commissioning and the resources has been the tough part – this was the case in the 1990s and is increasingly so today. I think there was more flexibility in those days to work in a way that was less specified, whereas now services are commissioned with a strict focus, squeezing out some of the other opportunities. There is a real split between the positivity of those working within physical healthcare services and their wanting to involve clinical psychologists and the lack of actual service resources. Recently, we conducted a survey of consultants across Lincolnshire regarding their opinions on the desirability of having psychological input into physical health services, and there was an overwhelmingly positive response. There is increasing research evidence in support of the significant impact it can have, but developments are stifled at the moment by the financial climate.

You note some of the challenges associated with developing these services – do you think this is an area of psychology that has been neglected?
I think one reason why this area has been so neglected is that we compartmentalise far too much in the NHS; traditionally physical health is seen as separate from mental health and psychology is linked with the mental health arena. Further to that is the stigma surrounding mental health which doesn’t facilitate psychological working within physical health. It has been improving over the years, but has not been helped by the evidence base having been relatively sparse in the past. I think there is much more talk now about biopsychosocial approaches, psychoneuroimmunology, etc., and there is huge growth within these fields, taking on board the impact of the psychological on the multi-systems of the body.

It sounds like it is an ongoing challenge but one that is moving in the right direction! So why is working psychologically in this field so important?
We know that we all vary with our physical health constantly just as our emotional well-being varies too and both directly impact on each other. Our physical health needs are often attended to swiftly but so often it’s the emotional side that is neglected unless it is a mental health issue, in which case it is seen as separate from physical health. Psychology could ultimately have a profound impact in promoting overall wellbeing, increasing coping, decreasing distress, and ultimately decreasing costs for the NHS.

So psychology can contribute to population health more broadly?
Psychology has huge potential to contribute across the board – in emergency care, in long term conditions, and even before that, looking at people’s choices, lifestyles and ability to cope. I do think it is important that this is started with youngsters –we need to develop responsibility amongst individuals of looking after your own health and knowing about factors that affect your health from
early years. Also there needs to be a change in the patient-doctor relationship, with a further emphasis on taking charge of your own health. I am pleased that recently this has really hit the headlines and that some aspects of this are now being carefully considered. Psychologists could help lead the work in this by using their skills looking at facilitating behavioural and attitudinal change.

**And what specifically is the role of a clinical psychologist within this?**

The potential for clinical psychologists to work in physical health is enormous: working clinically, in research, with policy makers and working with staff. We are in a unique position to highlight the importance of seeing the whole person and how to facilitate change. As a clinical psychologist, you have many transferable skills and experiences from training and experience across the board: having the ability to really engage with the individual and their complex issues, the ability to hold the anxiety that comes with physical health conditions and procedures. Psychological issues go alongside so many physical health conditions with high prevalence rates of both anxiety and depression being associated with most long term health conditions. Also high distress levels lead to patients seeking more support, longer stays in hospital and increased readmittance statistics. Similarly, in some clinical areas, there are high rates of staff sickness that often isn’t recognised and clinical psychologists can have an important role here too. The supervision of staff working in these settings, such as oncology is mandated in peer review and NICE guidelines, which highlights the unique and important contribution that clinical psychologists can make.

**What are the challenges for clinical psychologists working in physical health?**

I think there are numerous challenges on many different levels. Some are with regard to what I described earlier. However, just with regard to working clinically, there are practical challenges; it is essential to have a good knowledge of the condition you are working with, and the associated medications and treatments. Also you must work flexibly and work around any treatment procedures and regimes – this is certainly true in psycho-oncology, and is a very different way of working from the traditional approach in adult psychology. Another issue is that of access to patients; a fair number of those with physical illnesses are significantly disabled, be it temporarily or permanently – there are issues then about either getting them to a clinic to see you, or doing home visits – this latter option is of course resource heavy, but otherwise there are significant limits as to who can access your service. I also think boundaries can be challenging, what we take on as part of physical health services and what should be referred on to colleagues in other services. It is part of our work to piece together the whole person, which inevitably can bring up psychological issues from the past – you can’t work effectively within health psychology if these key factors are ignored.

**What do you enjoy about this work?**

I like the complexity of this work – it’s about piecing together the immediate impact of the medical condition, the medication, the treatment and its implications, what has been conveyed to the patient and the individual’s fears for the future, but also combining this with all that’s happened earlier in their lives and who they are as a person coming to that medical condition. I often use the analogy of a giant 3D jigsaw puzzle – there are so many different dimensions to piece together to have a full understanding of that individual.

Another aspect I think is the real privilege it is to be let openly into people’s lives, especially within palliative psychology, where every day is so precious. I find it inspiring to see what can be achieved psychologically with patients with significant issues, and when time might be short.
And what has been the proudest or most special moment of your career so far?

Often the special moments relate to individual sessions, when someone sees something differently, or makes the decision that they really want to live or work to turn their life around. But on a service level – I remember the telephone call when I was told that we had been successful in our bid to develop the chronic fatigue syndrome service; we had worked really hard for a long period of time to put this bid in and I knew it was such an important area to get help into. It was hugely rewarding to hear that we had succeeded and could put together a proper service for the people in Lincolnshire, with the opportunity to work as a multi-disciplinary team.

Finally then, what advice could you give to psychologists considering working within this field?

With all the pressures that come with working in this field, I think it is important to preserve clinical time as precious for the patients, allowing time to piece together the stories to enable the individuals to fully express what is important to them. Also, I would highlight the importance of looking after yourself in this field, practising what you preach in looking after your emotional and physical health, as it is a demanding role; it is very special and rewarding but also challenging. This is true across this field but especially in rural areas such as Lincolnshire where there is frequently isolated working, so you have got to take responsibility in looking after yourself. I would also suggest that trainees select a placement in this field as, even if they don’t feel especially attracted to this specialty, I think it might surprise them and that they feel more inspired and better equipped to work in this area than they expect.

Anne, I appreciate that this is a very complex area and one that you have dedicated a vast amount of time and effort to, so this conversation really only touches the surface. Nonetheless, I find your reflections on working in this field fascinating, as I hope others will too: thank you very much for your time.

Acknowledgements

I thank the PsyPAG team for awarding me a bursary to attend the ACBS World Conference in July, and look forward to reporting on this event! My thanks also to Anne.

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Lauren Roche
Correction to Zahra & Hedge (2010)

The authors would like to thank Professor Larsson of the Norwegian University of Science and Technology for bringing to our attention an error in our 2010 article ‘The reliable change index: Why isn’t it more popular in academic psychology?’.

The Reliable Change Index (RCI) values reported in Table 1 do not match the values that would be expected using the example parameters discussed in the article. Table 1 should appear as below.

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Discussion of the calculation, application, and implications of the RCI values are unaffected, and the RCI calculator which readers are directed to at the end of the article returns the correct RCI values.

Daniel Zahra  
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Plymouth University Peninsula Schools of Medicine and Dentistry.  
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Craig Hedge  
Research Associate,  
School of Psychology, Cardiff University.

Reference  
Dates for your Diary

26–28 April 2016
British Psychological Society Annual Conference
East Midlands Conference Centre, Nottingham.

14–16 June 2016
British Psychology Society Division of Forensic Psychology
Annual Conference
Hilton Brighton Metropole Hotel, Brighton, East Sussex.

27–29 July 2016
PsyPAG Annual Conference
University of York.

23–27 August, 2016
European Health Psychology Society and the
British Psychology Society Division of Health Psychology
Annual Conference
University of Aberdeen.

31 August – 2 September 2016
British Psychology Society Social Psychology Section Conference
Mercure Cardiff Holland House Hotel, Cardiff, Wales.

14–16 September 2016
British Psychology Society Developmental Section Annual Conference
Hilton Belfast, Belfast, Ireland.

Look out for ‘Psychology in the Pub’ events,
taking place in a local near you!

The British Psychology Society website lists a full list of
British Psychology Society events: www.bps.org.uk/events
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<td>2017</td>
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About PsyPAG

PsyPAG is a national organisation for all psychology postgraduates based at
UK institutions. Funded by the Research Board of the British Psychological Society,
PsyPAG is run on a voluntary basis by postgraduates for postgraduates.

PsyPAG’s aims are to provide support for postgraduate students in the UK, to act as a vehicle
for communication between postgraduates, and represent postgraduates within the
British Psychological Society. It also fulfills the vital role of bringing together postgraduates
from around the country.

- PsyPAG has no official membership scheme; anyone involved in postgraduate study in
  psychology at a UK institution is automatically a member.
- PsyPAG runs an annual workshop and conference and also produces a quarterly
  publication, which is delivered free of charge to all postgraduate psychology departments
  in the UK.
- PsyPAG is run by an elected committee, which any postgraduate student can be voted on
to. Elections are held at the PsyPAG Annual Conference each year.
- The committee includes representatives for each Division within the British Psychological
  Society, with their role being to represent postgraduate interests and problems within that
  Division or the British Psychological Society generally.
  We also liaise with the Student Group of the British Psychological Society to raise
  awareness of postgraduate issues in the undergraduate community.
- Committee members also include Practitioners-in-Training who are represented
  by PsyPAG.

Mailing list

PsyPAG maintains a JISCmail list open to all psychology postgraduate students.
To join, visit www.psypag.co.uk and scroll down on the main page to find the link,
or go to tinyurl.com/PsyPAGjiscmail.

This list is a fantastic resource for support and advice regarding your research, statistical
advice or postgraduate issues.

Social networking

You can also follow PsyPAG on Twitter (twitter.com/PsyPAG)
and add us on Facebook (tinyurl.com/PsyPAGfacebook).

This information is also provided at www.psypag.co.uk.
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