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Editor’s Column

Celine Chhoa

I AM DELIGHTED to welcome you to the 104th issue of PsyPAG Quarterly! It has been a busy summer at PsyPAG with our annual conference and general meeting in July. The conference held at Northumbria University this year was a huge success with an exciting array of talks and presentations and, of course, social events! Our annual conference, along with The Quarterly, is a safe space for postgraduates to present and disseminate their work. It is also an excellent opportunity to learn about the research other postgraduates in the UK are conducting, build networks and make friendships, getting lots of support along the way.

Following our annual general meeting (AGM) at this year’s conference, we have new Quarterly team members to announce as well as team members to bid farewell to. We say goodbye to Victoria Whitelock, Jimmy Couzens and Ryc Aquino, who have been with The Quarterly for two years. Thank you all for your hard work and dedication. We wish you well in all your future endeavours. You will be missed! Congratulations to Claire Melia, Marta Isibor and Philippa Carr, who were elected at the AGM. A very warm welcome to the team!

This edition of The Quarterly is packed with a diverse range of articles to start off the academic term. We kick off with a featured article by Doireann O’Brien discussing ways of improving access to mental health services for children via primary care. Meanwhile, our discussion papers section delivers several fascinating pieces. In the first of our discussion papers, Heather Westwood brings our attention to a subgroup of the anorexia nervosa population with comorbid autistic traits, highlighting the possibility of limited effectiveness of treatment for this subgroup given their unique characteristics. Next, Elham Assary discusses individual differences in sensitivity to environmental contexts and considers the evidence that these differences are genetically driven. In our final discussion paper, Jessica Weaving provides insight into whether spontaneous eye blink is a reliable indicator of dopamine activity.

We now turn to a Guest Author special on the use of systematic reviews in psychology. Dr Nigel Hunt and Katherine Brown introduce us to systematic reviews and describe how they are typically conducted. They also highlight limitations of systematic reviews which are often overlooked and emphasise the appropriate use of systematic reviews. Next up, we look at the exciting research conducted by UK psychology postgraduates with a research in brief article by Ilham Khan, who reports on her research study on the experience of homosexual Indian and White British males and suggest some practical implications of her study for supporting homosexual men. In her reflective paper, PsyPAG bursary winner, Scarlett Gaebler, reflects on her research visit to Northwestern University in Chicago and how she has benefitted from the visit.

As a postgraduate publication, we always strive to include research hints and tips that may help other postgraduates in their research endeavours. We have three fantastic hints and tips articles in this edition of The Quarterly. First, Vanessa Cecil shows you how to pitch a PhD proposal – very useful for anyone thinking of applying for a PhD or, indeed, current PhD students already applying for grants for conferences or further funding. In our second hints and tips article, Jolanta Golan provides tips on recruiting and collecting data from families with infants and young children, a must-read for those planning on conducting research with this population. Without participants psychological research would not be possible.
and Alex Bradley highlights the importance of making the research experience more enjoyable for participants and gives us some ideas on how to achieve this. Experiments are a common methodological approach in psychological research and we often rely on computers to build and run them. Jonathan Jones reviews the free, open-source experiment builder software, OpenSesame, and helpfully walks us through some of its main features and functionality.

We now turn to articles in our review section. Outgoing PsyPAG Chair Emma Norris reviews the Health Psychology in Public Health Network (HPPHN) seminar on physical activity. Further afield, Divya Sukumar reviews the Society for Applied Research in Memory and Cognition conference held in Sydney earlier this year. We close this section with a book review from Incoming PsyPAG Chair Holly Walton, who reviewed chartered psychologist and retired professional sportsman Steven Sylvester’s book *Detox Your Ego*.

Finally, last but not least, we have an extra special piece to close this edition of *The Quarterly*! This poem ‘Ode on the Brain’ by late PhD student, Sarah Bird, was submitted to us posthumously by her supervisor, Dr Adam Harris, who felt this poem exemplified Sarah’s positive attitude towards research and the wonder of the beginning of a PhD journey. We think this is the perfect piece to end the edition.

If you don’t already, you can follow us on @PsyPAGQuarterly. Please Tweet us if you have any questions – we would be delighted to hear from you! And as always, please keep sending your contributions for publication in future issues.

Happy reading!

Celine Chhoa

*On behalf of the PsyPAG Quarterly Editorial Team*
WOULD LIKE TO warmly welcome you all to this autumn’s edition of the PsyPAG Quarterly, for what will be my last time as PsyPAG Chair. I am writing this having just stepped down from the PsyPAG committee yesterday, during the Annual General Meeting at the 32nd PsyPAG Annual Conference. Hosted at Northumbria University, our flagship event brought together postgraduates from across the UK to present their work, network and celebrate!

This year’s highly successful conference had a total of 17 symposiums and over 40 poster presentations, from a diverse range of topic areas, demonstrating the exciting research currently being carried out by the psychologists of the future. Our four keynote speakers were Dr Vincent Deary (Northumbria University), Dr Kate Milnes (Leeds Beckett University), Professor Merim Bilalic (Northumbria University) and Dr Lynda Boothroyd (Durham University). There were also a total of 9 workshops, on topics as diverse as virtual reality to yoga and meditation! We also enjoyed a PsyPAG alumni fringe event and BBQ on the Wednesday evening. This featured recent PsyPAG Core Committee Alumni, Dr Laura Neale (Chair, 2013–2015), Dr Daniel Jolley (Information Officer, 2013–2015) and Dr Bernadette Robertson (Vice Chair, 2013–2015) reflecting on their experiences over some food and drinks. Our formal conference dinner on the Thursday of the conference at Newcastle’s Assembly Rooms was a fun and memorable event. At the Annual General Meeting, we bid a fond farewell to several PsyPAG committee members who were standing down from their positions, alongside voting in and welcoming new members. This included Kate Williams (Treasurer 2015–2017) and Claire Wilson (Information Officer 2015–2017): members of the Core Committee that have contributed invaluably to PsyPAG throughout their PhD studies.

I would like to take this opportunity to thank all invited guests, presenters and particularly the 2017 conference organising committee, without whom the conference would not have been possible. I would like to give a HUGE thank you to our joint Conference Chairs: outgoing PsyPAG reps Kerry McKellar and Sarah Allen. You both co-ordinated a fantastic event along with the rest of your team: Anna-Marie Marshall, Ash Chapman, Lauren Bussey, Tim Eschle, Kamila Irvine, Lea Martinon, Mitchell Hogg, Jack Beal and Katie Linden. We appreciate the dedication you have all committed and the time you have taken out of your studies to work on the conference, ensuring it was a big success! I also wish to thank the many sponsors of the conference for their generous support and the strong turnout from many BPS Branches, Divisions and Sections who exhibited at the conference.

Attending this year’s conference allowed me to reflect on my four years spent on the PsyPAG committee (Quarterly Editor 2013–2015 and PsyPAG Chair 2015–2017). I am incredibly proud of what PsyPAG has achieved over this time. Through the hard work and dedication of our volunteer reps, we have truly benefited psychology postgraduates across the UK. PsyPAG is a fantastic organisation offering support in terms of bursaries, awards, workshops, social media updates and a low cost annual conference – make sure you take advantage of all that is available (see www.psypag.co.uk for more information); get involved! I would therefore like to sincerely thank all the PsyPAG reps I have worked with and wish them success and happiness in their future careers. PsyPAG feels like a family to me and I have truly made friends for life. I wish PsyPAG
continued success and look forward to seeing the organisation going from strength to strength under Holly Walton’s leadership.

I would also like to make a final thank you to the BPS Research Board for their continued support and funding of PsyPAG and for the assistance they have given me during my time as Chair. I am very happy to be working as a Postdoctoral Rep to the Research Board, so look forward to hearing updates on PsyPAG from Holly at these meetings!

I hope you have had a lovely summer and wish you all the best of luck for this new academic year. Over to you, Holly!

Emma Norris
Outgoing PsyPAG Chair
Twitter: @EJ_Norris

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Deadline: 10 October 2017
For more information, visit: www.psypag.co.uk/bursaries-2/
Or scan the QR code
Hello to everyone reading the September issue of PsyPAG Quarterly. I am delighted to say that this is my first column as the incoming PsyPAG Chair! I am a PhD student at University College London and for the past two years I have served as PsyPAG’s Undergraduate Liaison Officer.

I have just come back from PsyPAG’s Annual Conference in Northumbria. I would like to echo Emma’s comments on how successful and enjoyable this year’s conference was, and I’m sure many of you will agree! I also would like to thank the conference committee for all their hard work in making the conference a success, our conference sponsors and to all of you for attending! I am already looking forward to next year’s conference in Huddersfield, hosted by Conference Chair: Becky Scott and Vice Conference Chair: Donna Elliott.

As many of you may have seen, during the Annual General Meeting many new committee members were elected. A huge congratulations and welcome to you all! During the Annual General Meeting, I took over the role of PsyPAG Chair (2017–2019). I am very excited and honoured to have been elected to be Chair and I am looking forward to representing and helping to support UK Psychology postgraduates!

I am, however, sad to see three members of our Core Committee, who have become great friends for many of us, step down. I would like to say a huge thank you to Emma Norris, for all her hard work and dedication in running PsyPAG, as Chair, for the last two years. Emma is extremely passionate about PsyPAG and has made a huge difference to the organisation. During Emma’s time as Chair, PsyPAG has introduced a new undergraduate award to help bridge the gap between undergraduate and postgraduate studies and PsyPAG has gone from strength to strength. On behalf of the PsyPAG committee, thank you so much for all of the support you have given us over the past two years. I would also like to thank Kate Williams and Claire Wilson for their invaluable support over the past two years. Without the three of you, PsyPAG’s activities would not have run so smoothly! We wish you all the very best in your future careers.

I am excited to introduce two more of our new Core Committee: Jemaine Stacey (Treasurer) and Becky Scott (Information Officer). The three of us will join Ryc Aquino (Vice Chair) and Catherine Talbot (Communications Officer) to form PsyPAG’s Core Committee.

Although we have just elected many new committee members, we do advertise positions throughout the year. So, please keep an eye out for upcoming Committee positions. Details of these can be found on our website or at the back of the PsyPAG Quarterly. If you would like any more information or would like to apply, please contact Vice Chair Ryc Aquino at vicechair@psypag.co.uk.

We also have funding opportunities for postgraduates for workshops and bursaries (details can be found on www.psypag.co.uk). We have recently supported many excellent workshops and bursary applicants and we are excited to support many more of you in the future!

I would also like to extend my thanks to the BPS Research Board, I am really looking forward to working with you.
Holly Walton

On behalf of the whole PsyPAG committee, I would like to encourage you to get in touch – we would love to hear from you!

Wishing you all a productive start to the new academic year!

Holly Walton
Incoming PsyPAG Chair
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Special Announcement from the South West of England Branch of the British Psychological Society

We welcome all members of the British Psychological Society who live in the South West to the

South West BPS Annual General Meeting
Thursday 16 November 2017, from 5.00–5.30pm
At The Treasury, Royal Parade, Plymouth PL1 2 AD

This meeting will be followed by a much-anticipated Plymouth Psychology in the Pub Event:
Professor Richard Stephens ‘The Psychology of Swearing’
Featured article

Accessing treatment for childhood mental health problems: A look at the current issues faced in primary care
Doireann O'Brien

Approximately 10 per cent of children and young people suffer from mental health problems in the UK. However, the vast majority of those affected do not receive specialist help. Primary care is usually the first port of call for parents who have concerns about their child’s wellbeing; however, General Practitioners (GPs) report many difficulties managing this group. Worryingly, despite an increase in the amount of referrals for these disorders, data suggests that many children are not being assessed and treated. Recent reviews of these issues have called for increased training for GPs and access to a mental health work on-site, within primary care.

The last UK-wide survey of childhood mental health found that approximately 10 per cent of children and young people (CYP) suffer from a mental health disorder (Green et al., 2005), although more recent worldwide prevalence rates are estimated as being as high as 13.4 per cent (Polanczyk et al., 2015). This is of serious consequence as mental health disorders in CYP often run a chronic course, with half of all lifetime mental health disorders present by 14 years of age, rising to 75 per cent by age 24 (Kessler et al., 2005). Furthermore, mental health problems in childhood are associated with an increased risk of poor educational attainment and employment prospects (Green et al., 2005). Given these, it is unsurprising that mental health problems are associated with considerable economic and societal burden, representing the largest single cause of disability in the UK and costing the economy an estimated £105 billion a year (NHS & Care Quality Commission, 2015). In the youth population, overall lifetime costs associated with a severe behavioural problem are £260,000 per child, with severe behavioural problems defined as causing severe, frequent and persistent impairment to the child and those around them (Parsonage et al., 2014). Effective, evidenced-based treatments are available for common childhood mental health problems but there is currently a large discrepancy between prevalence rates and numbers accessing treatment.

This article will provide an overview of the current challenges which are faced by CYP when attempting to access treatment for mental health problems via primary care, followed by an outline of future plans and policies.

Role of the General Practitioner

General Practitioners (GPs) play a key role in the recognition and management of mental health problems in CYP, as the professional group who make the most referrals to Child and Adolescent Mental Health Services (CAMHS; Hinrichs et al., 2012) and government directives have increasingly seen them as ‘gatekeepers’ to young people’s mental health services. On average, British children see their GP at least once a year and the GP is usually the first port of call for parents who are concerned about their child’s mental health. As such, GPs are in a strong position to identify and manage childhood mental health problems.
Unmet need
Despite high prevalence rates and serious economic and societal burden, the last UK epidemiological study suggested that, at that time, less than 35 per cent of those with a diagnosable mental health condition accessed treatment (Green et al., 2005). However, difficulties exist for GPs in both identification and management of mental health problems in CYP. For example, a recent study in the US found that primary care practitioners identified just 30 per cent of children with a diagnosable depressive or anxiety disorder (Richardson et al., 2010). There is evidence to suggest that children and adolescents display symptoms of mental health problems in different ways to adults, may not be as forthcoming with their issues, and more commonly present with physical symptoms. In addition, these challenges are almost certainly compounded by time restrictions placed on primary care appointments, with patients in the UK discussing their mental health problems with a GP for an average of nine minutes per consultation.

Although there is no current national level information on mental health service use by CYP in the UK, there is emerging evidence of a rising need, with GPs reporting an increase in patients presenting with mental health problems over the past five years (stem4, 2016). Between 2013/2014 and 2015/2016, the number of mental health referrals increased five times faster than the growth of the workforce (NHS & CCQ, 2015), and those who were successfully referred usually experienced significant waiting times (We Need to Talk Coalition, 2013).

Worryingly, despite the recent increase in referrals to CAMHS, a recent freedom of information (FOI) request by PULSE in July 2016 revealed that 60 per cent of GP referrals to CAMHS led to no treatment and a third are not being assessed (Price, 2016). The same FOI request showed that treatment rates for CYPs dropped from 44 per cent in 2013 to 39 per cent in 2015. These stark figures no doubt partly reflect the fact that funding for mental health services has been...
cut in recent years, with around 40 per cent of mental health trusts experiencing income reductions in 2013/14 and 2014/15 (The King’s Fund, 2015). In 2013/14, Clinical Commissioning Groups (CCG) spending on specialist mental health services accounted for only an average of 12.7 per cent of their total budget allocation (NHS England, 2014). There are also clear discrepancies in funding allocation between different CCGs, which suggests a wide disparity of care in different parts of the England.

Recommendations for GP training
A recent survey of GPs in England (N=302) revealed that the vast majority find child and adolescent mental health services inadequate and desire an increase in funding for these services, while just over half would also like more specialist training for GPs in CYP mental health problems (stem4, 2016). The report recommended that funding allocated to mental health improvements would be beneficially spent in raising GPs’ awareness of best practice and providing increased, regular and ongoing training in CYP mental health. The results of this survey further endorse the recommendations of the mental health governmental task force Five Year Forward View, which also recommended that improvements should be made to the mental health training of GPs (NHS & CCQ, 2015).

A report published by the We Still Need to Talk coalition has recommended a similar plan of action, stating that GPs also need greater knowledge of recommended interventions in order to make the most appropriate referrals, provide high quality information to patients and to improve decision-making at each point of the treatment path (We Need to Talk Coalition, 2013).

Prospective innovations in primary care
In addition to increased training, numerous reports have recommended that GP practices should have a dedicated mental health specialist on site (Department of Health, 2015). Their role would be to discuss and provide timely advice on management and referral, including consultation or liaison (Department of Health, 2015). Interestingly, the General Practice Forward View has recommended that the NHS in England provide access to mental health workers for every GP practice such that by 2020 there will be an extra 3000 MH therapists working in primary care. This equates roughly to one full-time therapist for every 2 to 3 typical sized GP practices (NHS, 2016). Although these new roles would not specifically be recommended to deal with CYPs, it could be surmised that this provision would benefit this population. However, currently there is little information on how this will be funded.

Towards the future
Due to an absence of substantial data, it is difficult to provide a definitive assessment of the state of mental health services for CYP (The King’s Fund, 2015). However, it is clear that this is a sector under huge pressure. Early intervention in primary care has been recommended in order to combat early signs of mental health difficulties and to provide support for CYP and their families while they wait for specialist services (stem4, 2016). This may be achieved through a more joined-up service through collaborative commissioning (NHS & CCQ, 2015), in a move away from the tiered model of referral (Department of Health, 2015). The Five Year Forward View recommends that money should be directed to ensure that by 2020, 70,000 more CYPs have access to high quality care, with the goal of increasing access rates from 25 per cent to 35 per cent (NHS & CCQ, 2015).

On a positive note, attempts to integrate Improving Access to Psychological Therapies (IAPT) into children’s mental health services have shown promise, with an audit early in 2015 showing services employing IAPT had reduced assessment waiting times by 60 per cent (Edbrooke-Childs et al., 2015). However, variations in consistency and coherence between different services again suggest a disparity of care in different parts of the country.
Conclusion
The literature discussed within this article suggests that the majority of children and young people access secondary care via primary care, particularly their GP. As such, there is great potential to provide effective early interventions for CYP with mental health difficulties and their families. In order to do this, it is imperative that services are streamlined and strengthened and that the individuals who work within them are adequately supported.

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References


We Need to Talk Coalition (2013). *We Still Need To Talk: A report on access to talking therapies*. London: Mind.
Interest in the link between anorexia nervosa (AN) and autism spectrum disorder (ASD) has intensified over the past three decades, with attempts to estimate prevalence of ASD in AN and understand the neuropsychological similarities between the two disorders. Despite previous research suggesting an over-representation of ASD in AN, research to date has proven inconclusive regarding the exact nature of the relationship between these seemingly different conditions. This article aims to synthesise current understanding and research into this complex relationship, highlighting the ongoing work in this area.

We've all seen him – the quiet, uncommunicative boy who stands in the corner at school, not quite able to make eye contact or strike up a conversation. The boy who gets upset if the rain interrupts his break time routine. The boy whose teacher has been visited by a specialist and informed of his diagnosis: a diagnosis that will hopefully lead to increased support and a better quality of life. Most of us would recognise that this boy has an autism spectrum disorder. But what about the girl? The girl has always seemed slightly anxious. When her parents first dropped her off at nursery she tearfully clung to her mother. She took longer to settle into school and although she had friends, always seemed slightly on the sideline. She was so desperate to fit in that she started mimicking her peer’s behaviour; the way they interacted socially; the way they dressed; what they looked like. She began to eat less in a hope that being thinner would make her more popular. She liked the sense of calm she felt by controlling her diet. Eventually, she lost so much weight that her parents took her to see her GP. By then it was too late, she was already firmly within the tight grip of anorexia nervosa.

Anorexia nervosa (AN) is a severe eating disorder characterised by low body weight, intense fear of gaining weight and the undue influence of weight and shape on self-evaluation. It tends to manifest during adolescence and affects more females than males (Hoak, 2006). AN has the highest mortality rate of any psychiatric disorder (Fichter & Quadflieg, 2016) with no gold-standard treatment, and high relapse and treatment dropout rates. In contrast, autism spectrum disorder (ASD) is a pervasive developmental disorder with marked difficulties in social interaction and communication and repetitive, stereotyped interests and behaviours. For ASD to be diagnosed, symptoms must be present during the developmental period and unlike AN, it tends to affect more males than females (Brugha et al., 2011).

Despite these disorders seeming different, there are a number of marked similarities between them: from comparable thinking styles (Westwood et al., 2016) to problems with social interaction and emotional processing (Davies et al., 2016). Several traits associated with ASD have been found in AN populations, two being inefficiencies in set shifting (SS) and central coherence (CC). SS is the ability to move attention from one stimulus to another while CC refers to
the extent to which an individual can use context or the ‘bigger picture’ to interpret information. It is broadly accepted that individuals with ASD have inefficiencies in these areas. A recent meta-analysis (Westwood et al., 2016) synthesised studies using a widely-used measure of SS, the Wisconsin Card Sorting Test in both AN and ASD populations. In adult studies, there was no effect of diagnosis on test performance, suggesting that individuals with either AN or ASD had similar levels of difficulty. However, there was a non-significant trend for children with ASD to perform worse than those with AN, which may indicate that SS difficulties are exacerbated by the ill-state of AN, rather than being stable across ages, as seen in ASD.

Starvation, even in people without AN leads to social withdrawal and obsessive behaviour (Keys et al., 1950), characteristics commonly associated with ASD. Therefore, unpicking the complex relationship between these two disorders is extremely difficult. Did the girl who was shy at school and wanted to be accepted really have ASD or was she simply a bit socially anxious and lacking confidence? When she became more rigid and withdrawn after developing AN, was this because of an underlying developmental disorder or a result of malnutrition and the all-consuming thoughts that accompany AN?

Knowing the answers to these questions could increase recognition of ASD in girls and improve service provision for individuals with AN. ASD is underdiagnosed in females because it is harder to spot. Especially given that the tools used to diagnose ASD are biased towards males (Kreiser & White, 2014), which could leave girls with the disorder undiagnosed. Girls with ASD may also be better at masking some of their symptoms, or ‘camouflaging’ them in order to fit in (Lai et al., 2011). Underdiagnosis could prevent individuals from accessing the support they need but overdiagnosing ASD in eating disorders is equally problematic. While we know that women with AN have certain traits associated with ASD prior to their eating disorder, concluding that this is the result of a true ASD could lead to unnecessary and inaccurate diagnoses and labelling.

Disentangling the relationship between AN and ASD has led to attempts to estimate the prevalence of ASD within AN populations. While the prevalence of ASD within the general population is around 1 per cent, a number of studies have suggested the level of ASD in AN is significantly higher than this. Gillerg (1983) first proposed a potential link between the two disorders and with collaborators has conducted several studies examining this co-morbidity within a cohort of AN patients in Gothenburg, Sweden. Initial assessment indicated that 7 per cent of the AN sample had a developmental history of ASD, however at five year follow-up this had risen to 20 per cent (Gillberg et al., 1995). By 18 year follow-up it was estimated that a third of participants had received an ASD diagnosis during the course of the study (Anckarsater et al., 2012). A systematic review of prevalence studies reports a mean rate of 23 per cent (Huke et al., 2013). Studies measuring self-report ASD traits in AN samples have found significantly elevated traits in AN populations, relative to controls (Westwood et al., 2015). However, self-report measures of these traits rely on the subjective insights of the individual. Therefore, assessments administered by a trained professional allowing for objective observations about behaviour to be made are needed to progress this line of research further.

As ASD is a pervasive developmental disorder, one would not expect the prevalence to increase over time, as it seemed to in the Gothenburg studies. This raises the question of whether the ASD characteristics observed in AN populations really are underlying traits, as opposed to an epiphenomenon arising from the eating disorder. Ongoing research at the Institute of Psychiatry, Psychology and Neuroscience (IoPPN), King’s College London, aims to estimate the prevalence of ASD in AN using more clinically robust, standardised diagnostic tools. This will go some of the way to deter-
mining whether ASD really is more common in women with AN, compared to women without it. In a pilot study (Mandy & Tchanturia, 2015), women with AN presenting with social and flexibility difficulties were assessed using the recommended diagnostic tool for ASD, the *Autism Diagnostic Observation Schedule, 2nd edition* (ADOS-2; Lord et al., 2012). Over half scored above clinical cut-off on this measure. As this study used a pre-selected sample, the rate is not indicative of the AN population as a whole. Larger scale work is ongoing, using a cross-sectional design.

Despite the ADOS-2 being the gold-standard tool for diagnosing ASD, it is based on semi-structured interaction with a person and does not account for developmental history. Combining the ADOS-2 with a structured parental interview, such as the Developmental, Dimensional and Diagnostic Interview (3Di; Skuse et al., 2004) will determine whether any ASD characteristics were present prior to the onset of AN, helping to answer the ‘state versus trait’ question of the aetiology of ASD traits in AN. Existing research in children have suggested a slight increase in the prevalence of ASD in young people with eating disorders, but these findings have been less robust than in adults (Rhind et al., 2015). Therefore, using both the ADOS and 3Di with young people with AN, who have been subjected to the illness-effects of AN for a shorter time will shed light on whether a subgroup of individuals who develop AN are truly autistic.

Knowing the prevalence of ASD in AN is the first step in exploring whether the subgroup of individuals with elevated autistic traits may respond differently to conventional eating disorder treatments, or indeed whether their eating disorder symptoms are comparable to those without ASD traits. This could lead to the tailoring of specific interventions, such as those which target cognitive flexibility or difficulties with social interaction. The research group at the IoPPN have developed treatments which specifically target inefficiencies in cognitive style and emotional expression and recognition, namely Cognitive Remediation Processing (CRT, Tchanturia et al., 2014) and Cognitive Remediation and Emotion Skills Training (CREST; Tchanturia et al., 2015). While these treatments have been found to be both effective and acceptable to patients, it is not yet known whether individuals with elevated ASD traits respond differently to these treatments. In addition, there are currently no evidence-based treatments which target difficulties with social interaction. Research is needed to further develop these treatments, which could have wide-reaching implications for the community, particularly for females, whom remain neglected by research and service provision.

Exploring the link between ASD and AN is not about needlessly labelling people with additional diagnoses; it is about identifying the girls who despite having a developmental disorder, do so well at blending in with their peers that they go unnoticed. It is about recognising that not everyone with the disorder fits the fear-of-being-fat, perfection-driven stereotyped view of anorexia nervosa. It is about tailoring treatment to fit the needs of every individual with an eating disorder, whatever these may be.

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References


Discussion paper:

Individual differences in the impact of environmental influences: Vulnerability to risk or general sensitivity to context? And what have genes got to do with it?

Elham Assary

Individuals differ in the extent to which they are influenced by their environmental contexts, with some individuals detrimentally affected by the same adverse environmental contexts that leave others unscathed. Recent evolutionary-based theoretical frameworks propose that genetically driven variations in general sensitivity to environmental stimulations can explain this observed variation in response to adversity, as well as to positive environmental influences. Three main theoretical models are explored, along with evidence on the genetic basis of individual differences in environmental sensitivity.

Individual differences in response to environmental influences

THE ASSUMPTION that experiences in the early years of life influence later development is central to theories of human development, and is reflected in the large number of studies investigating how environmental experiences during early life relate to functioning later in life. Of note are studies investigating the links between parental divorce/separation and academic performance in adolescence, or childhood maltreatment and internalising and externalising disorders. However, not all individuals exposed to these environmental influences follow the same trajectory, with undesirable effects seen in some, but not all of those who are exposed to them.

The observed individual differences in the impact of environmental exposures can be examined and interpreted from two related, but fundamentally different, theoretical perspectives. The older, more widely embraced perspective supposes that variations in the impact of negative environmental influences is a function of individual differences in inherent vulnerability or resilience, whereas the alternative perspective contends that this variability is a function of individual differences in general sensitivity to environmental contexts. The vulnerability/resilience view best reflects the Dual-Risk or Diathesis-Stress model (Monroe & Simons, 1991; Zuckerman, 1999), according to which psychopathology emerges as a result of the interaction between environmental stressors and individual-specific inherent vulnerability factors (e.g. genetic, physiological or behavioural). This model assumes that these inherent vulnerability factors exist only in some individuals, therefore, environmental stressors do not elicit the same effect in all of those who are exposed to them. Individuals who do not develop obvious psychopathology in response to environmental adversity, either due to the absence of vulnerability factors or the presence of protective factors, are deemed resilient.

Whilst the diathesis-stress framework has been influential in conceptualising the interactive effects of contextual risk, protective factors and individual characteristics in the development of psychopathology, it makes no specific predictions about variability in
response to positive environmental exposures. Consider, for example, the finding that stimulating activities and maternal warmth act as protective factors in low income families, ameliorating the well-established adverse effects of low SES on cognitive abilities and conduct problems (Kim-Cohen et al., 2004). Whilst maternal warmth or taking part in stimulating activities are considered to be protective factors, not all children who are exposed to them benefit from them (or at least not to the same extent). The diathesis-stress model, with its focus on vulnerability and risk, cannot be readily applied to explain such variations in the outcomes of positive environmental exposures.

The alternative theoretical frameworks, developed during the past two decades, include Biological sensitivity to context (Ellis et al., 2005), Sensory-processing sensitivity (Aron & Aron, 1997) and Differential susceptibility theory. These theories build on the person x environment interaction concept of the diathesis-stress model by extending this interaction to the positive end of the environmental spectrum. Thus, rather than considering psychopathology as a reflection of the interaction between individuals’ vulnerability/resilience solely to the detrimental effects of adverse environments, they consider these interactions to reflect variations in general sensitivity to both negative and positive environmental exposures. The forthcoming sections will focus on the three recent theoretical frameworks concerned with individual differences in sensitivity to environmental influences, followed by a brief overview of current research findings on individual differences in environmental sensitivity as a function of genetic variation.

**Theoretical models of individual differences in environmental sensitivity**

**Differential Susceptibility Theory** (DST; Belsky & Pluess, 2009) proposes that individuals differ in their sensitivity to environmental influences, and that those individuals who are more susceptible to the effects of negative environments are also likely to be more susceptible to the effects of positive environmental exposures. The inherent general sensitivity thus functions in a ‘for better and for worse’ manner. DST is based on evolutionary theory, according to which the primary goal of all living beings is the transmission of their genetic material to future generations. From this perspective, characteristics or strategies that enhance the chances of reproduction can be considered adaptive even if they infer psychological maladjustment. For example, whereas aggression is considered maladaptive in most societies, an evolutionary-developmental view would suggest that aggression in the context of low resources is an adaptive and optimal strategy by increasing the chances of resource procurement, and therefore promoting reproductive fitness. High sensitivity (increased propensity to be responsive) towards environmental influences could increase reproductive fitness via optimal adaptation to the prevailing context. However, high sensitivity may not always be adaptive, especially under conditions in which the present is not predictive of the future environment, thereby creating a mismatch between the strategies that are adaptive for the developmental period but are maladaptive for the individual in their productive years. Natural selection would have therefore led to propagation of at least two sensitivity types: high and low general sensitivity, each inferring advantages and disadvantages, largely dependent upon the environmental context in which the organism finds itself in. Individual differences in environmental sensitivity are suggested to be predominantly genetically determined, although early developmental environments also play a role.

Related to the framework of differential susceptibility is Vantage Sensitivity (Pluess & Belsky, 2013), a term that has been suggested to capture the disproportionate advantage a highly sensitive individual may gain in more positive environmental contexts. Vantage Resistance, on the other hand, denotes the failure to benefit from positive environmental influences. Vantage-
sensitive individuals might be especially responsive to positive environmental influences, but not necessarily to negative ones, whereas a vantage resistant individual may be nonresponsive to the beneficial effects of positive environmental experiences but not necessarily resilient to the harmful impact of adverse experiences.

Biological sensitivity to context (Ellis et al., 2005) is also concerned with development from an evolutionary perspective, suggesting that individual differences in physiological reactivity – principally the stress response systems – reflect individual differences in sensitivity to environmental influences. According to this model, children in highly positive or highly adverse environmental contexts will both develop higher physiological reactivity: stressful childhood environments predispose a child to develop heightened reactivity to detect and respond to environmental threats, whilst supportive early environments also lead to heightened reactivity, enhancing the chances of benefiting from positive features of the environment. Environments that are not particularly adverse or supportive, lead to the development of physiological reactivity patterns that are less responsive to environmental influences.

Sensory-Processing Sensitivity (Aron & Aron, 1997) is also concerned with individual differences in environmental sensitivity, but approaches sensitivity from a personality perspective. It suggests that heightened environmental sensitivity is reflected in a personality trait that is characterised by enhanced awareness of sensory stimulation, behavioural inhibition, higher emotional and physiological reactivity, and deeper cognitive processing of environmental stimuli. Aron and Aron (1997) also developed the Highly Sensitive Person scale (HSP) to capture an individual’s self-reported propensity to be highly sensitive toward environmental influences, providing a quantitative measure of environmental sensitivity, with those at the high end of the spectrum identified as highly sensitive individuals. Similar to the aforementioned models, high sensitivity to environmental exposures extends to both ends of the environmental quality spectrum, positive as well as negative. This model also proposes that individual differences in sensitivity have a genetic basis, with heightened sensitivity emerging in infancy and being further shaped by environmental contexts during development.

Although there are clear conceptual differences between these theoretical models, it has been suggested that heightened environmental sensitivity may be the function of a generally more sensitive central nervous system. According to this ‘neuro-sensitivity’ hypothesis, genetic factors influence the structures and functions of the central nervous system, resulting in a brain that is overall more sensitive to environmental influences. It is possible to integrate these different models by considering that environmental sensitivity may be reflected in physiological stress-reactivity at the physiological level, and in high sensitive personality at the behavioural level (For a detailed discussion see Pluess, 2015).

Notwithstanding important differences between these theoretical frameworks, they do share some important features regarding the notion of individual differences in response to environmental exposures. First, they adopt evolutionary reasoning, to some degree, to explain why individual differences in sensitivity to environmental influences should exist in the first place. Second, they propose that individual differences in sensitivity to environmental influences function in a ‘for better and for worse manner’, rather than solely as a vulnerability factor to negative influences. Finally, they suggest that individual differences in sensitivity are genetically influenced, a proposition that will be the focus of the following section.

Genetics and individual differences in environmental sensitivity

Evidence in support of the proposed moderating function of environmental sensitivity and its genetic basis is mainly based on gene-environment interaction (GxE) studies.
Such studies typically test whether a genetic variant interacts with an environmental (risk) factor (i.e. maltreatment) to differentially influence the outcome (i.e. psychological functioning). Indeed, in a comprehensive review of the research in the field, Belsky et al. (2009) have reported that many of the genetic variants initially thought of as vulnerability factors (e.g. Serotonin Transporter Linked gene, 5-HTTLPR short allele and Dopamine Receptor D4 gene, DRD4 7-repeat) influence psychological functioning for worse at the adverse end of the environmental spectrum (e.g. many stressful life events), but also for better at the positive/no risk end. This suggests these genetic variants reflect general sensitivity to environmental influences, rather than exclusively vulnerability/risk. Specifically, 5-HTTLPR short allele has been shown to predict – for better and for worse – the impact of maternal responsiveness on children’s moral development (Kochanska et al., 2011), child maltreatment on children’s antisocial behaviour (Cicchetti et al., 2012) and supportive parenting on observational and self-reported measures of positive affect in children and adolescents (Hankin et al., 2011).

Whilst initial studies have mainly concentrated on one or a small collection of candidate genes, recent studies on environmental sensitivity have moved on to using genetic data that covers a larger proportion of genetic variation (genome-wide) data, in line with the more data-driven approaches in the field with other phenotypes. One of the first such studies, by Keers et al. (2016), applied a genome-wide approach to create a polygenetic score of environmental sensitivity based on approximately 20,000 gene variants. Consistent with the notion of a general environmental sensitivity, they found that their genetic score of environmental sensitivity moderated the effects of positive and negative parenting behaviours on children’s emotional problems. They also found that their genetic score predicted treatment response to cognitive behavioural therapy (CBT) in children with anxiety disorders, with those scoring higher responding significantly better to the more intensive types of treatment (i.e. individual CBT vs. group CBT or brief parent-led CBT).

It must be noted that, although a large number of empirical studies support the notion of individual differences in environmental sensitivity, not all studies find these same genetic markers to act in accordance with the proposed cross-over interaction pattern (see for example: Cicchetti et al., 2012; Felmingham et al., 2013). Additionally, although these studies provide evidence of a genetic basis for environmental sensitivity, the identified genetic variants explain less than 5 per cent of the variance, relative to the effects sizes that would be expected based on the significant heritability estimate of 47 per cent from twin studies on environmental sensitivity (Assary et al., submitted). Finally, in the majority of existing empirical evidence (e.g. see Belsky & Pluess, 2009) individual differences in environmental sensitivity are being assessed indirectly, based on interaction patterns between genetic markers of sensitivity and environmental factors, therefore implying such genetic markers to be reflective of environmental sensitivity, rather than direct genetic associations with a phenotypic measure of environmental sensitivity (e.g. the high sensitive personality). In summary, current research findings suggest that individual differences in sensitivity to environmental influences have a genetic basis, potentially with contribution from many genes of small effect sizes.

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Spontaneous eye blink rate is suggested to partially reflect dopamine activity. It has been used in numerous studies as it is a non-invasive and accessible measure compared to alternative techniques, such as positron emission tomography (PET). However, there are a number of dopamine pathways in the brain, which are associated with activity of dopamine neurons with different receptor subtypes. This article reviews evidence from pharmacological and clinical studies, in order to draw more specific conclusions regarding the type of dopamine activity reflected by spontaneous eye blink rate.

In addition to other methodologies, spontaneous eye blink rate has been used to link dopamine activity to performance on cognitive tasks, allowing neurophysiological theories of cognitive control to be formulated (Goschke & Bolte, 2014). However, dopamine neurons differ in their physiology and can be classified primarily into subtypes based on having receptors that are D1-like or D2-like. There are also a number of different dopamine pathways in the brain, with the most relevant to cognitive control being the nigrostriatal and the mesocorticolimbic pathways. The nigrostriatal pathway projects from the substantia nigra to the striatum in the basal ganglia, whilst the mesocorticolimbic pathway projects from the ventral tegmental area to the prefrontal cortex and nucleus accumbens. Projection of dopamine along the mesocorticolimbic pathway is suggested to result in an increase in the activity of D1 neurons in the prefrontal cortex, which promotes the maintainance of representations (Durstewitz & Seamans, 2008). However, projection of dopamine along the nigrostriatal pathway is suggested to result in an increase in the activity of D2 neurons in the striatum, which facilitates updating of representations (Frank & O’Reilly, 2006). Consequently, theories of cognitive control propose that goal directed behaviour requires a balance between shielding and shifting representations, reflected by an antagonistic relationship between D1 and D2 activity in the prefrontal cortex and basal ganglia. Therefore, it is important to ascertain the specific dopamine activity that is reflected by spontaneous eye blink rate, so that findings from studies using this methodology can be used to more accurately guide theories of cognitive control.

Spontaneous eye blink rate has been examined in clinical studies using samples of patients with disorders thought to be related to aberrant dopamine activity, such as Parkinson’s disease. This neurological disorder is characterised by symptoms of hyperkinesia (increase in muscle activity resulting in abnormal movement), and is associated with progressive dopamine depletion in the substantia nigra. Patients with Parkinson’s disease have been demonstrated to have a reduced spontaneous eye blink rate compared to matched controls, with a meta-analysis of studies concluding that there was a significant reduction in blink rate for patients compared to healthy controls (Fitzpatrick et al., 2012). In addition, studies have found that spontaneous eye blink rate is lower for patients at a later stage of the disorder, and for those displaying more severe symptoms (Agostino et al., 2008; Karson et al., 1982).
Treatment for Parkinson's disease is through administration of the metabolic precursor for dopamine levodopa (L-dopa), which has been demonstrated to result in an increase in eye blink rates compared to patients not taking this medication (e.g., Agostino et al., 2008). Dopamine agonists targeting specific receptor subtypes can also be used to treat the disorder, and these treatments primarily target D2 receptors. Whilst the effectiveness of these drugs have been demonstrated in the treatment of symptoms, research has not specifically examined this in relation to spontaneous eye blink rate.

Schizophrenia is another disorder associated with aberrant dopamine activity. This disorder is characterised by psychotic symptoms (e.g., hallucinations and delusions), as well as anhedonia (loss of interest in previously enjoyable activities) and a lack of motivation. It has been hypothesised that hyperactivity of dopamine neurons may lead to these symptoms, specifically striatal neurons with D2 receptors. Studies have consistently demonstrated that patients with schizophrenia have an elevated spontaneous eye blink rate in comparison to matched controls (e.g., Adamson, 1995). Treatment is through administration of neuroleptic drugs, such as chlorpromazine and haloperidol, which are strong D2 antagonists. Studies have demonstrated that treatment with chlorpromazine over a number of weeks reduced spontaneous eye blink rate, and that this reduction was positively correlated with improvement in clinical symptoms (e.g., Adamson, 1995). However, another study found that treatment with neuroleptic drugs resulted in a non-significant decrease in eye blink rate (Mackert et al., 1988), although this may have been due to a failure to exclude patients with a history of taking neuroleptic drugs. This was supported by a subsequent study demonstrating that eye blink rate was reduced only for drug naive patients (Mackert et al., 1991).

Pharmacological studies have examined the influence of dopamine agonists and antagonists on spontaneous eye blink rate in animal models. Administration of the non-selective dopamine agonist apomorphine has been demonstrated to increase eye blink rate in monkeys (e.g., Kleven & Kock, 1996). As this drug is non-selective, these studies do not allow identification of the specific dopaminergic pathways or receptor subtypes contributing to spontaneous eye blink rate. However, several studies have examined the effect of administering the neurotoxin 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP), which has been shown to destroy dopamine neurons specifically in the substantia nigra. These studies have found that MPTP reduces eye blink rate, presumably as a result of a decrease in dopamine projection to the striatum (Elsworth et al., 1991; Lawrence & Redmond, 1991). This suggests that the nigrostriatal pathway and D2 activity is reflected in spontaneous eye blink rate, which is further supported by findings that selective D2 antagonists block increases in eye blink rate resulting from apomorphine (Karson et al., 1981). However, this finding was not replicated by a recent study, which found that increases in eye blink rate were only blocked by a selective D1 antagonist (Kotani et al., 2016). This suggests that D1 activity may also be reflected in spontaneous eye blink rate.

Studies have found that eye blink rate reliably increases following administration of selective D2 agonists, and that this increase can be blocked by pretreatment administration of D2 antagonists (Elsworth et al., 1991; Lawrence & Redmond, 1991). The involvement of D2 receptor subtypes in spontaneous eye blink rate is further supported by findings that selective antagonists block increases in eye blink rate (Elsworth et al., 1991; Lawrence & Redmond, 1991). Again Kotani et al. (2016) did not replicate this finding, but the antagonist dosage administered was lower than in other studies (Jongkees & Colzato, 2016). Studies have also found that spontaneous eye blink rate reliably increases as a result of D1 agonists (Elsworth et al., 1991; Kleven & Kock, 1996; Kotani et al., 2016). However, one study found that the D1 agonist SKF...
38393 resulted in a decrease in eye blink rate (Kleven & Koek, 1996), although Elsworth et al. (1991) suggests that this may be because SKF 38393 is only a partial agonist, and demonstrates results are more reliable using full agonists. Again, increases in spontaneous eye blink rate resulting from D1 agonists can be blocked by pretreatment administration of D1 antagonists (Elsworth et al., 1991), and D1 antagonists have been demonstrated to result in a reduced eye blink rate (Elsworth et al., 1991; Lawrence & Redmond, 1991).

Evidence reviewed from pharmocological studies up until this point suggests that spontaneous eye blink rate may reflect both D1 and D2 activity. However, a relatively recent study conducted by Groman et al. (2014) does not fit with this conclusion. PET was used to identify D1 and D2 receptor availability in the striatum of monkeys, and it was found that spontaneous eye blink rate measured at baseline was positively correlated with only D2 and not D1 receptor density. This study also used a pharmocological manipulation to demonstrate that only administration of a D2 and not a D1 agonist resulted in an increase in spontaneous eye blink rate. In addition, the size of this change in eye blink rate was positively correlated with D2 and not D1 receptor density. This lead Jongkees and Colzato (2016) to suggest that baseline eye blink rate may in fact reflect D2 receptor activity, whilst D1 influences on eye blink rate may be restricted to the effects of pharmocological manipulations. Furthermore, those monkeys with lower baseline D2 receptor densities were found to have greater eye blink rate responses to the D2 agonist administration. Therefore, the results of this study also suggest that individual differences in baseline levels of spontaneous eye blink rate (reflecting dopamine availability at D2 receptor sites) may moderate the effects of interventions on eye blink rate.

There are few pharmocological studies with humans, but those that have been conducted generally find mixed results. The non-selective agonist apomorphine has been demonstrated to increase spontaneous eye blink rate in humans (Blin et al., 1990), as has the indirect agonist amphetimine (Strakowski et al., 1996). However, selective D2 agonists and antagonists have been shown to have no effect (Depue et al., 1994), although a recent study conducted by Cavanagh et al. (2014) demonstrated that a D2 agonist did modulate eye blink rate, but this was dependant on baseline eye blink rate. This was such that whilst there was an increase in eye blink rate as a result of administration for those with a low baseline eye blink rate, there was a decrease for those with a high baseline eye blink rate. This is in line with Groman et al.’s (2014) finding that administration of a D2 agonist only resulted in an increase in the spontaneous eye blink rate (in monkeys) for those with a low baseline D2 receptor availability. Therefore, Cavanagh et al.’s (2014) study again suggests that baseline levels of dopamine may be important for predicting the effects of manipulations. Jongkees and Colzato (2016) suggest that a nonlinear relationship between eye blink rate and effects of drug administration that depends on baseline eye blink rate may explain mixed findings for human pharmocological studies. The relationship may instead be U-shaped for the effect of dopamine antagonists, which would be inverted for agonists.

Overall, research indicates that spontaneous eye blink rate is a reliable indicator of dopamine activity. Evidence from clinical studies appears to indicate that eye blink rate predominately reflects activity of D2 receptor neurons in the nigrostriatal pathway. In contrast, animal pharmocological studies suggest that drugs targeting the activity of either D1 or D2 receptors can modulate eye blink rate. However, recent work conducted by Groman et al. (2014) suggests that in the absence of a manipulation, baseline eye blink rate is more likely to reflect specific D2 receptor activity. Therefore, whilst D1 and D2 receptor agonists and antagonists may both influence blink rates, baseline eye blink rate might most accurately reflect D2 activity. Human pharmocological studies
do not always replicate the effects demonstrated in animals, but research in this area is limited, with variability in methodologies (i.e., drugs and dosages used). Furthermore, a recent study conducted by Cavanagh et al. (2014) demonstrates that baseline eye blink rate (most likely reflecting D2 receptor density) may moderate the impact of these pharmacological manipulations. In relation to neurophysiological theories of cognitive control, these conclusions suggest that spontaneous eye blink rate (especially at baseline) is associated with flexible shifting and updating of representations (cf. shielding and stable maintenance of representations associated with D1 activity in the prefrontal cortex). This is further supported by studies finding that patients with schizophrenia and Parkinson’s disease demonstrate deficits in cognitive flexibility (Cools et al., 2001; Mittal et al., 2009).

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FOR THOSE UNFAMILIAR with systematic review (SR) methodology, it is a series of techniques enabling the synthesis of published (and sometimes unpublished) research within a specific field – with or without statistical meta-analysis, which is a statistical technique for combining data from multiple studies; but which can only be carried out if the experimental design is identical. This allows the researcher to draw conclusions regarding theory, as well as regarding the limitations of methodological approaches.

A SR has a series of standard procedures. First, a research question is identified. Next, eligibility criteria (such as the research question, the design of the study, measurement of particular psychological characteristics) and search terms are established as well as the sources from which evidence will be searched for. This information is built into the SR protocol, which includes the background to the review, the aims and objectives, and the specific review methods employed. An example might be exploring the efficacy of psychological treatment for traumatised refugees (research question). The eligibility criteria might include: experimental or quasi-experimental design, being a refugee or asylum seeker, and a measure of trauma or anxiety.

Once the protocol is agreed reviewers search the selected evidence sources (usually journal articles, but also books, conference proceedings, and sometimes unpublished work obtained by contacting authors directly). Those studies that are retrieved via these searches are assessed at the level of title, abstract and full paper. Most are usually excluded due to problems with theory or method. The remaining titles, those with methodological rigour, are retained for analysis and reporting. Fuller details can be found in work such as Pettigrew and Roberts (2006).

There are multiple benefits to SRs. One of the biggest of these is that there are relatively standardised procedures for conducting the review, with guidelines provided by sources such as The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Group (Moher et al., 2010) and Cochrane Reviews (Higgins & Green, 2011). Standardised procedures make it easier for reviewers to conduct a robust review (Deyo et al., 1999), though reviews are of widely varying quality (Yuan & Hunt, 2009). Decisions such as which databases to search,
which academics to contact for additional work and what exclusion criteria to apply are made by reviewers and vary in rigour. Ultimately, SRs can only be as good as the people contributing to them and the quality of the material reviewed.

Even in high-quality reviews, there is no guarantee that the literature studied is of a consistently high standard. Indeed, many reviews that assess the quality of included studies emphasise that a great deal of available work is of a poor standard (Labelle et al., 2015) and should be rejected. The danger arising from this is that flawed, and hence rejected, material may still have something to contribute that is then missed in the final review. It is important for researchers – including postgraduates – to be aware of methodological flaws in order to deal with them. Reading a SR will not necessarily inform the researcher of these flaws.

Regardless of the quality of a SR, some of the steps typically followed should bring epistemological advantages. It is common for reviewers to contact researchers working in the area for any unpublished work that is relevant to the aims of the review. As evidence indicates that published psychological work is biased towards statistically significant and novel findings (French & Stone, 2014), including unpublished studies in reviews may help conclusions to be drawn with less influence from such biases. Nonetheless, reducing the effects of bias are not the same as removing it. Numerous factors, such as psychologists’ willingness to share data and to respond to reviewers’ contact attempts may prevent pertinent unpublished work being included in review analyses. Many reviews do not include any attempt to search for unpublished literature (Holly et al., 2012). The limitations faced in accessing all relevant work means that, as with other methodologies, SRs are likely to be affected by some degree of bias.

Whilst these limitations can be addressed by conducting research with due care and acknowledgement of bias, some problems are harder to resolve. Stringent criteria may result in a good SR, but also prevent exploration of useful knowledge from excluded publications. Similarly, SRs are only able to explore findings that are relevant to stated outcomes of interest from the studies included in review – meaning other potentially significant findings cannot be investigated. Research methodologies such as narrative reviews offer a more flexible approach, allowing reviewers to synthesise evidence in the manner they deem best – including the exploration of unpredicted themes that emerge during analysis (Pettigrew & Roberts, 2006). Given the complexity of most psychological constructs, an adaptable approach to evidence reviewing is likely to be beneficial for increasing levels of understanding (Pettigrew & Roberts, 2006).

Another potential drawback of SRs lies in the context from which the methodology was established. SRs originated from medical fields, and an understanding of the methodology is encouraged amongst healthcare workers (Torgerson, 2003). Psychological SRs may consequently be helpful when seeking to apply findings to clinical fields (Mulrow & Cook, 1997). They may also help legitimise the importance of psychology, which has historically been considered a ‘pseudoscience’. However, by doing this psychologists may make statements regarding the nature of psychology that others in the discipline find inappropriate. Although the links between medicine and psychology are widely accepted (Suls et al., 2010), this does not mean the two disciplines are the same, nor that ‘widely accepted’ means ‘fully accepted’. Some psychologists believe that the strengthening associations between psychology and medicine are detrimental (Conrad, 2007) and certain psychological domains even oppose conventional medical models. For instance, whilst conventional medical models of mental illness emphasise biological factors importance in illness development, psychodynamic and behaviourist psychology emphasise the importance of subconscious conflict (Marini & Stebnicki, 2012) and behaviour reinforcement (Bloch & Singh, 2006) respectively.
Another element of the SR that is important in medicine is meta-analysis, where the data from a number of studies are brought together and analysed as a single data set. This is possible where the experimental design is identical, the population is identical, and the measures used are identical across studies. Unfortunately, in psychology (even where we are using RCTs) we often use different designs, different populations and, particularly, different measures. This makes meta-analysis difficult or impossible, and so removes one of the key advantages of the SR. In the end, we often have to analyse the data from our studies in narrative form.

So is there a place for SRs within psychology? Of course. They are a useful way to select relevant work from large evidence bases and synthesise evidence in order to answer questions of interest. But the limitations of SRs are not as widely discussed as the benefits. All too often they are seen as a superior method of evaluating research and other techniques, including alternate forms of reviewing, are overlooked. SRs are not inherently better than any other form of review. Researchers should therefore ensure that a SR is an appropriate tool for their aims, and that they run their reviews with utmost diligence.

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Research in brief:

Exploring the life perceptions and experiences of homosexual Indian and White British males in London

Ilham Khan

In the past decade, gay rights activism in the United Kingdom has led to favourable legislations of homosexuality. India, however, has not yet benefitted in the same way which also impacts Indian men living in the UK. This study aimed to explore the experiences of homosexual Indian and White British (WB) males living in London. Semi-structured interviews were conducted with six cisgender males (3 White British, 3 Indian). Thematic analysis was used to identify themes from the interviews. The themes created from the dataset reflect the various aspects of participants’ lives including: the acceptance of one’s homosexuality; the impact of socio-cultural factors on experiences of homosexuality and the process of ‘coming out’ to one’s family, friends and employers. Implications of this study are also discussed.

Introduction

The American Psychological Association (APA) removed homosexuality from the Diagnostic and Statistical Manual of Mental Disorders (DSM, 1952) in 1975. Since then, safe spaces were created in the UK for men who identify as homosexual by introducing gay bars and clubs for social events. Recreational and experimental sex among homosexual men also became more prevalent and in 2004, the Civil Partnership Act was introduced in England, giving homosexual couples the same rights as married heterosexual couples.

In contrast, India largely remains a patriarchal society where homosexuality is criminalised, can also lead to physical abuse and infers legal restrictions (Maroky et al., 2014). Due to the patriarchal structure, gender roles and identity have very important functions within an Indian family. For example, while the males are taught to be assertive, bold and brave, females are taught the importance of sexual repression and the trait of submission. Stemming from these contrasting roles, heterosexual marriage and subsequent child-rearing plays a pivotal role in the life of an Indian man. Bhurga (1997) found that Indian males living in the UK found it challenging to align their cultural identity with their sexual identity, where an ‘Indian gay man’ is a dichotomy that cannot co-exist according to traditional Indian values. Based on the above evidence, Indian and Caucasian homosexual males are treated very differently.

The experiences of homosexuality, particularly among Indian males remains a relatively understudied area (Rao & Jacob, 2012). A literature review I conducted prior to conducting this study revealed that the majority of past studies are American-based with very little representation from British and non-White participants. Based on this, I conducted a qualitative research project in London as a component of the BSc (Hons) Psychology programme. This study aimed to explore the similarities and/or differences among the two population groups in their experiences of homosexuality and was based on the Constructivist perspective.

Method

Participants

In total, six cisgender males were recruited, all of whom identified as homosexual and
Exploring the life perceptions and experiences of homosexual Indian and White British males in London

either WB (N=3) or Indian (N=3). One of the Indian participants was born and raised in India whilst the remaining two, and all of the WB males were born and raised in the UK. Given the hard-to-track nature of this target population, a sample of six participants was deemed sufficient.

Data collection
After obtaining ethical approval from the university, data was collected through semi-structured, face-to-face interviews and were voice recorded on a dictaphone for transcription.

Analysis
Thematic analysis was used to analyse the transcripts (Braun & Clarke, 2006).

Results
Six themes emerged from the dataset and explored various facets of the participants’ lives as a homosexual male such as acceptance; the role of socio-cultural factors on the experiences of homosexuality and the processes involved in ‘coming out’. Due to word count limitations, only three of the six themes will be explained in further detail below. All real names have been replaced with pseudonyms.

The process of accepting oneself before coming out
None of the Indian participants had yet disclosed their sexuality to their families because it is important to ‘deal with yourself before dealing with family’ (Rahul). Acceptance is a gradual process that facilitates the transition from feeling ‘odd’ to being comfortable with oneself: ‘you know, it takes time to kind of come out of your shell and kind of know something for yourself. Instead of feeling odd, you realise what it is, and it just gradually comes to you’ (Raj).

For Dev, who affiliated himself with a religion, acceptance seemed more convoluted:

‘But as I said, I believe I am wrong, however... but, I’m just coming to an acceptance, I can’t change anything. Maybe God like, at the end, will show, you know, understanding for that’.

The above quote demonstrates that not only is Dev trying to accept himself, but he is also trying to lead a lifestyle that is approved of by God. He further discussed in the transcript the struggles he faces when he tries to engage in religious activities while also engaging in homosexual activities – the conflict of two contradictory desires complicates his self-acceptance, in his opinion.

In contrast, the WB participants of this study had already come out to their families and reflected on their experiences of self-acceptance: ‘I remember wishing that I wasn’t for many years and thinking to myself “oh, it’s just a phase” and then I sort of came to terms with it by the end of my teenage years’ (Rob). Similarly, John reflected on his self-acceptance journey which ‘has come a long way since I first came out’ and concluded ‘I don’t know whether if I had a choice... I would choose to be gay? I don’t think I would’. Throughout the transcripts, it was clear that acceptance is a long-term internal process rather than a one-off decision:

‘There was definitely a phase of accepting myself but I don’t think... I’m not sure, I’m not entirely sure I had gone through that stage when I came out... well I suppose I had accepted it but not fully, I don’t think’ (Rob).

Self-acceptance for Andy was also facilitated by his environment when living in London:

‘... living in London definitely, because there’s youth groups around here, there’s so much more freedom to be who you are and a lot more people are more accepting and it’s just a brilliant environment towards gay people’ (Andy).

The role of socio-cultural factors
Participants in both groups agreed that sexuality cannot be influenced by socio-cultural
factors: ‘if someone is straight, he wouldn’t be dragged by anyone to “become” homosexual’ (Dev). However, sexual behaviours can be influenced. For example, Andy felt that ‘In the Western world, I know it’s a bad thing to say, but everyone is erm… it’s a very independent culture’. He further discussed that in this independent culture, he had observed other homosexual males and concluded that ‘their whole social life is just going to the gay clubs, going to the gay bars and they don’t tend to go out to straight places as much’ because young homosexual males seek out others they can ‘identify with’.

The desire to ‘identify’ with peers was also supported by Indian participant, Raj, who recalled seeking social situations where he was comfortable at various stages in life:

‘When I was younger, I used to hang around with more girls, but that’s also probably ‘cos I had more in common with them. But now, most of my friends are guys, but they’re gay guys obviously so, you know, it’s growing up and again then finding people who are in the same boat as you and have the same thing in common’.

Not being able to identify with peers due to socio-cultural factors can be problematic for the participants. Rahul discussed the ‘immense pressure’ he felt from his parents to marry a female and build a heterosexual family:

‘I always thought yes, I’m meant to get married, I will settle down; in India, being gay was very uhh synonymous with a being a transgendered person. So your masculinity would be questioned, they first question your masculinity, not your sexuality’.

He went on to discuss the benefits of moving away from the family home in India and coming to the UK which gave him ‘freedom’ allowing him to cope rather than being ‘shut down by the society’. The below quote explains this further:

‘Had I been born and raised in a country like the UK, the only difference would be, I would still be me, the only thing is I would have accepted myself and I wouldn’t have felt guilty or gone through the long phase’ (Rahul).

The notion that socio-cultural factors only affect sexual behaviours and not sexuality was further supported by John who believed that one’s socio-cultural environment will only affect ‘whether people come out or not’ – not whether or not they are attracted to other males.

**The role of religion and faith in homosexuality**

The role played by participants’ religion in the experience of homosexuality varied across the two groups. All of the WB participants reported becoming gradually less religious over time, which was partly associated with their sexuality. Andy directly linked his lack of faith with his sexuality: ‘I can feel this way but it’s against God’s will so then I just rejected the whole concept that God existed and stuff like that’. Similarly, John reported to belong to a religious family, attending church regularly but ‘I think the thing is, you know, when you’ve had to make choices that erm isolate you to a certain extent, you don’t need that sort of belonging, feeling that perhaps religion gives you’. Rob stated that he ‘can’t abide by religion’ and ‘despises’ the concept of religion. The WB males also commonly reflected on their families being religious and how his sexuality triggered them to question their beliefs.

Indian participants, however, did believe in a God although their interpretations of a religion or God varied from each other. Rahul reported that his faith had been affected due to ‘the whole religion and sexuality thing’. This is because ‘I would say it’s not the religion that condemns homosexuality, it’s the people who practice it’. Coming from a Christian family, he no longer affiliated himself with a religion but reported being a ‘person of very strong faith’ and
continuing to ‘pray every day’. Similarly, Raj also does not affiliate himself with a religion but does pray because ‘it doesn’t matter how you pray, at the end of the day, you’re praying to the same God, you know, it doesn’t matter how you do it, as long as you do it, right?’ In contrast, Dev described religion as a ‘base of faith’ and a ‘base of act’ whereby, ‘in faith wise, I never lost my religion… um however, as I said earlier, the idea of homosexuality is not really about my acts’. He went on to discuss his strong faith in God and he prays God will show some understanding to his situation as homosexuality is ‘wrong’ in his religion.

Implications
This study offers insights into the similarities and differences in the experiences of homosexual Indian and WB men. The following section will highlight some of the practical implications of this study.

A prominent practical implication is the need to support homosexual men from both population groups during the ‘acceptance’ phase. The analysis section demonstrated the confusion felt by the participants when they first became aware of their sexuality – some thought it would be a phase while others felt odd or different. Although literature has shown that support groups exist in the Western world for homosexual men, there seems to be little support for young males who are confused and could benefit from having discussions about their identity with other individuals in the same situation. Self-acceptance becomes more difficult particularly among Indian populations where homosexuality is considered a forbidden act based on religious and societal norms (Stoever & Morera, 2007).

This leads to the next practical implication of the current study: to raise awareness among the Indian population regarding sexualities and develop interventions to better support homosexual males to become resilient and successfully manage familial relationships. Gerhards (2010) found that more religious societies tend to be less accepting of homosexuality than less religious societies, creating highly negative attitudes towards homosexuality. These negative attitudes often lead to lowered self-esteem and negatively impacts self-perception (Szymanski & Carr, 2008). The aim of raising awareness among the Indian population is to make homosexuality more accepted, reduce stigma and make men more comfortable in disclosing their sexuality.

The third implication from this study is the need to facilitate shifts in spiritual and/or religious beliefs among homosexual men in both groups. Although all of the WB participants no longer identified as ‘religious’, they did come from religious backgrounds and discussed the challenges they faced when disclosing their sexuality to religious family members. The finding in this study that sexual minorities are less likely to engage in religious activities and affiliate with a religion is supported by Herek et al. (2010). Combined with all of the challenges homosexual men face, highlighted above, it is important that they are also supported through changes they may experience spiritually.

Conclusion
This study highlights the experiences and perceptions of homosexuality among White British and Indian men and identifies areas in which they require further support. By implementing the recommendations above, we will be able create new interventions and/or support services to better the experiences of homosexual WB and Indian males.

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Reflective paper:

Funded research visit to Northwestern University

Scarlett Gaebler

With PsyPAG bursary funding, I was able to conduct a research visit at the Northwestern University in Chicago. Building upon my own research at Sussex University into emotional, cognitive arousal in text processing, my visit focused on physical forms of arousal. The research group I was visiting study sexual arousal as measured by genital arousal assessments. My visit allowed me to learn about these new methodologies, as well as discussing potential crossovers between physical and emotional/cognitive arousal research.

During a research visit to the Northwestern University in Chicago, my aim was to explore potential links between my own research, which focuses on how emotions or emotional arousal affect language processing and reading processes, and the research team at Northwestern University, who investigate physical arousal patterns.

My research to date has focused on how the emotions of characters in text and readers affect reading processes and the salience of information. In a variety of experiments, I have explored whether mental representations that are built up during reading (e.g., the main character), become more salient when emotional information is provided or can be inferred. For example, in one experiment, I have explored whether a readers’ emotional engagement with text (i.e. the strength of their cognitive arousal as a response to an emotional situation) is affected by the perspective in which the text is presented. In doing so, I found evidence that text is more engaging when a personal ‘you’ perspective is employed, and reading times were faster. More recently, I have also experimented with mood inductions of the reader prior to measuring their processing performance, and have again discovered interesting interactions between the emotional states of the readers and characters. These studies are currently being written up for publication.

I was first interested to visit Northwestern University because of the clinical research group based there, working on sexual arousal patterns. I was intrigued both by their novel methodologies, and also by the potential crossover with my own work on cognitive arousal. The work of the research group at Northwestern University also focuses on ‘arousal’ broadly conceived, but predominantly on arousal as a response to sexual stimuli as opposed to arousal evoked by affective responses. The team explore the nature of physical arousal in individuals and how the focus on visual stimuli (i.e., erotic video material) differs depending on certain character traits such as gender, sexual orientation or race. In their research lab, physical arousal is assessed using genital arousal measures such as penile plethysmography, measuring the girth of the penis of men, and vaginal vasocongestion, measuring the darkening of the vaginal tissue in women.

The common interest in arousal and on an individual’s focus on certain types of information was the main motive for my visit. I was (and remain) interested in how the theories and methodologies of our focus on different types of arousal may overlap and/or complement one another, and had a series of discussions with the Northwestern
team on this topic. One of the questions that is interesting for future research, for example, is whether cognitive arousal as a response to an emotional text or character can be measured by physical arousal assessments used for sexual arousal.

Theories on emotional arousal have highlighted that in order to experience an emotion, or have an emotional response to a stimulus, cognitive and physical components of arousal must be present (Reisenzein, 1983). So far, research has explored cognitive responses to emotions and it has shown that affective arousal is also physically measurable through eye-tracking experiments, where an increase in emotional arousal is correlated with an increase in pupil diameters (Bradley et al., 2008). Moreover, more arousing stimuli received more attention during visual processing as measured in eye-tracking studies by Lykins et al. in 2006. It has not been shown however, that cognitive arousal evoked by a text can also lead to sexual/physical arousal. In addition, research on arousal as measured by genital arousal assessments has only rarely involved textual stimuli with the result that the relationship between text and physical arousal remains largely unexplored. The focus on visual sexual stimuli represents a potentially masculinised view of sexuality, and potential benefits of complementing this with textual analysis was again discussed with the team at Northwestern.

A secondary advantage of my visit was the opportunity to learn about the methodologies employed by the team there, and to get practice running experiments based on genital assessment. These methods are rarely employed within UK universities, and the team at Northwestern have established themselves as world leading. The experience I gained will be invaluable for my future research in this area.

The research visit lasted for a total of three weeks. My host professor and one of his research students showed me around and introduced me to their lab. In regular meetings and for several days a week, I was able to learn the research technique, to set up and run experiments, and learned to analyse the datasets. Moreover, I was able to attend research and lab meetings as well as talks and presentations that provided a wealth of information about the research conducted within the lab and within the department. In discussions with my host alone or within the lab meetings, I could explain my ideas, received feedback and more information about how the link between the two research fields could be established. I was also able to contribute ideas, knowledge and research to some external projects at the lab.

Overall, the visit was a very positive experience as set out above, where I had the opportunity to discuss my ideas and learn about new research techniques. Unfortunately, as the Northwestern lab remains a relatively small research group, they have little space and scope to explore anything outside their immediate remit on purely sexual arousal. The team were interested in my ideas, and expressed positive interest in future collaborations, but it is always going to be difficult to achieve the kind of interdisciplinary research that I have in mind. It is in view of this that funding to support visits of this kind is so important, allowing face-to-face discussion and evaluation that is an essential first step to any ambitious project. I look forward to taking the next steps, and I am happy to say that I have formed a collaborative link that will aid me in doing so.

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Hints and tips:

How to pitch a PhD (or similar) proposal
Vanessa Cecil

To gain entry to a PhD programme you will normally need to write a convincing research proposal. Before embarking on that task, it is a good idea to pitch the general idea to your prospective supervisor(s). This can help to foster their interest, or better still, enthusiasm, and they will often provide suggestions for developing the pitch into a full proposal. However, it can be difficult to channel your thoughts into a concise document that demonstrates clarity, motivation, methodology and that sells your research idea. After some false starts, I discovered, courtesy of a great blog, a structured way to approach this. The pitch is both a sales tool and an invaluable resource for writing the proposal to follow, whether for a PhD or a grant application; this article summarises the guidance I followed.

When called on to write a research proposal, whether for a PhD or for a grant, there are plenty of exemplars to be found online and if you are lucky you can seek out a successful proposal submitted by a colleague to get a good idea of what is, and is not, required. These guidelines are useful when it comes to actually writing a proposal but it may be necessary to sell the idea before you get to that stage. Upstream of the proposal comes the pitch.

When I was writing proposals to do a PhD I spent a great deal of time trying to produce something substantive, complete and as ‘perfect’ as possible. Then, when it was not a good fit for one reason or another I would start again and extensive reading, notetaking, writing and editing would follow. Despite being asked to write no more than a brief outline for a proposal I found that it would expand, gobbling up time and effort and sucking me in.

I needed a structure to write a pitch and Robert Faff of the University of Queensland provided it. The ever-resourceful ‘Thesis Whisperer’ blog (Inger Mewburn) pointed me towards Faff’s pitching template (you can find the website for this in the reference list). This mercilessly forces you to break down your idea into prescribed sections and to keep each one brief and tightly focused. The ensuing document is a distillation of your proposal that can be rapidly scanned for its salient points so that within a few minutes your supervisor (or mentor or research collaborator) can assess its merits and whether it is worth working up into something fuller. It is, as Faff puts it, a sound starting point for a conversation.

Apart from making it easy for the prospective supervisor to get the gist of your idea almost at a glance (they will thank you for that), it helps you to organise your thoughts in those early days when a proposal is emerging, shifting and taking shape. Being obliged to confine all relevant information to two tightly prescribed pages demands clarity and precision, and only good can come of it.

Using the template

The template asks that ten fundamental questions be addressed. The first is the project’s working title which may in fact not be the first but the last thing written. Make it concise, make it informative. The second is a one-sentence research question defining the key features so that anyone reading it will know what the project is about and why. The next asks for key papers. Faff recommends just one if possible, three as a maximum, and stresses that they should be recent, by authoritative writers and published in top journals. The fourth piece of information
required is a short statement of what motivates the research, the puzzle to resolve.

The next three sections represent the critical dimension of a paper, namely the idea, data and tools. However the template is generic and, as Faff points out, in psychology other terms may be more appropriate, perhaps hypothesis, sample and statistical analysis respectively. Taking the first: what is the core idea, the central hypothesis, the dependent and independent variables? The second: what data or sample is required, what unit of analysis? Seven such questions in this section are intended to test the feasibility of the project. The third enquires about the toolkit, in other words the techniques, software, or appropriateness of analysis.

So far so good on the practicalities, but there are two big questions remaining: What’s new? and So what? – the project’s raison d’être. ‘New’ ought not be taken too literally, argues Faff, or there is the danger of confusing novelty with importance when in fact the new information could easily be inferred from existing literature. A different approach to thinking this through is recommended and this is where my favourite way of decluttering thoughts comes into play: mapping graphically. I would instinctively get out a pen and doodle my ideas, arranging concepts in boxes or circles, jotting down key papers, and linking it all up with loops and arrows. Faff’s version is a bit more structured: a Venn diagram of three intersecting circles each representing your research areas of interest. If the convergence where all three overlap has not been fully explored this is the novelty.

Visualising it
Rarely being able to resist naming and colour coding, I mentally labelled the circles ‘Existing literature’ (and marked them black), the overlaps between adjacent circles ‘What we know’ (green), and the central section where all three overlap ‘What we don’t know’ (red). Each green section was annotated with key papers. The red section (a shape apparently known as a Reuleaux triangle) sprouted a red arrow pointing to my newly formulated research question. There I had it, an unexplored area supported by a literature base. For further clarity I added underneath a simple path diagram defining predictor and outcome variables and what the mediating variables might be. Armed with that I could, when asked, more easily articulate my proposal and populate the template.

To illustrate, the circles may be something like Ageing, Social isolation, and Social media. Existing research may have explored relationships between each but not between all three and the research question can (almost) effortlessly pop out of the central Reuleaux triangle and lead to a working title. Perhaps: What is the impact of social media on older people’s sense of isolation, loneliness and health outcomes?

This is what’s new and demands an answer to the next question: So what? This is the crux. What will your PhD contribute, what is important and why should anyone care? This is your selling point and may naturally fall out of what has gone before but it may take further thought and reworking of some sections. The final part, other considerations, is a repository for all final thoughts and reflections. Perhaps identifying risks or obstacles, asking if the scope is appropriate or whether collaborators are advisable.

Pitch the idea, sell yourself
Perfection is not required but the populated template does need to demonstrate that the project has been well thought through and is feasible. Writing a pitch (or anything else) is a recursive exercise and can involve moving back and forth between sections and between template and diagram and at any point you may find yourself refining the research question. Once completed, the template gives you a solid structure on which to build your proposal (in fact the job is half done). However, more than that, by submitting a good pitch to interested parties not only will you be selling the project but, crucially, selling yourself as a competent and clear-thinking prospective researcher.
The template is available with or without prompts, and a paper explaining it fully and with examples (in a large number of different disciplines) may be downloaded. These are valuable resources for prospective PhD research and beyond.

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**Figure 1:** Example Venn diagram to map research areas and define area of novelty.
Hints and tips:
What you don’t know about developmental research
Jolanta Golan

If you are considering conducting a project with young children, you probably already know about the research proposal, ethics application, and confidentiality rules. These practical tips will give you an insight into other important aspects of data collection in developmental research, ones you won’t learn about in your ethical guidelines, but are just as important for a successful scientist.

Be resourceful when recruiting families
Your project has been approved by the ethics committee and you are ready for data collection. However, think carefully first, how and where to recruit. Some populations are more accessible than others. Families with babies can generally attend sessions any day, but can actually be a difficult group to engage with. Parents may not see the benefit of participating in a university project. They rarely associate research with practices they are familiar with at their local GP surgery, not realising that any procedures their child is subjected to are developed through studies. If you are lucky, your organisation will have links with the NHS, which will open doors to infant recruitment. If, however, like me, you are not attached to a hospital and are not planning to spend half of your PhD applying for NHS ethics, there are other ways, depending on your budget, to recruit very young participants.

Children’s centres and nurseries are keen on collaboration and may help in advertising your project. Other routes include attending sessions designed for babies, such as National Childcare Trust (NCT) events, baby playgroups, baby sensory, massage or rhyme classes at local libraries. Promoting research at university events or the old-fashioned leaflet distribution in supermarkets, cafes, and through the door is also helpful. The use of social media should not be underestimated either. Our lab has a Facebook page with a link to a signup form, which is quite popular among internet-savvy parents. Additionally, if you have some recruitment budget, advertising on baby forums such as ‘Emma’s Diary’ or ‘Netmums’ and in local magazines may prove beneficial. However, free papers such as my local Newham Mag, NCT Magazine or Metro reach more people. If you are really desperate, talking to parents on the street and distributing leaflets does not hurt (been there), but try not to be intruding as this may have an opposite result than intended. An annoyed parent will not sign up, regardless how attractive your project may be presented. Generally, some approaches work better than others. Your lab may have different ways of recruitment and someone in your team should be able to offer advice.

Be enthusiastic when contacting parents
If the participant database in your lab has children of your required age, go ahead and start booking! I find that the best way to contact families is to speak to them either face-to-face or over the phone. You can explain the procedure, answer their questions and offer testing slots in one conversation. I try not to book sessions via email if I can help it. If you offer someone a slot, you will have to keep it free until they respond. Don’t assume everyone is on their phone or laptop checking their emails 10 times a
day as you do! Parents are busy and may not check their emails for days or simply forget about an email they have just read if they have to feed or change a nappy a minute later. You will end up with empty slots, just because you are waiting for a response from the parents you offered them to.

Anyway, let’s assume you are lucky enough to get through to a parent. First impression counts, so sound enthusiastic. Have you ever heard someone smile? Believe me, it works! If you cannot show someone how passionate you are about your project, they will likely not be so keen on it themselves. You should briefly outline the procedure and general purpose of the project to the parent. Be careful not to use jargon or buzzwords, such as testing session, experiment, tests or assessments. Try to outline your project in lay terms. In my research, I use electroencephalogram (EEG), neuropsychological assessments and lots of questionnaires. Most parents don’t know much about these things and, if anything, will associate them with hospitals or worse: with Dr Frankenstein! They will not be likely to show up for a session if they think you will electrocute their child. When they ask how an EEG net works, I compare it to a thermometer in that it picks up brain activity, but does not change it in any way. It is a true but simple explanation of a complicated process.

Book a session at the parent’s convenience

If the parent seems interested in the project, try to book a session with the infant within two or three weeks of the phone call. Later than that and they may forget about it in their busy child and work schedules. At the same time, I try to be as flexible as possible to ensure their needs are met. I test during the week and at weekends, changing plans if necessary to accommodate them. They are willing to use their free time to visit the lab and put their precious baby in your hands, so you have to show them that you appreciate their effort and commitment. The younger the child is, the more important the time of the session is for the quality of the data. I always ask the parent when the infant usually naps and keep in mind that they tire towards the evening. This is why I suggest the visit happens shortly after baby’s morning or afternoon nap. Once the session is booked, send an information sheet, consent forms and travel details in the confirmation email, so that the parent can read a bit more about the project and see the consent forms before they sign it. It is good practice to confirm the visit by contacting the parent a day before. The dropout rate in developmental research is high. A quick phone call or text will keep it to a minimum. Either that or you may waste your time setting up for a no show. No problem if the setup does not take you much time, but I can think of better ways of spending two hours of my life, not to mention a wasted testing slot.

Be ready for the visit

On the day, you need to allocate reasonable time to prepare for the session. It all depends on what kind of equipment, assessments or questionnaires you are going to use and how long it takes to set it all up. I aim to be ready for testing at least 30 minutes before the session. It can be quite difficult as parents to make plans as infants can be unpredictable, for example, crying, needing feeding or changing, or taking a nap earlier or later than expected. As a result, families may arrive earlier or later than the allocated slot. You have to account for such contingencies and accommodate your testing accordingly. For instance, if they turn up before the scheduled time, as the baby woke up earlier than the parent had thought she or he would, you should be ready to test, or they may be too tired and fussy by the time you are. This may in turn result in a very uncooperative participant, leading to non-usable data. Nonetheless, from the moment the family arrives, the primary goal is to ensure they are comfortable and happy, whether you manage to collect the data or not. Our lab is very baby friendly and we have both changing and feeding facilities, as well as lots
of age-appropriate toys and healthy snacks for older children and parents. Remember, they come with their baby in their free time to help with your research. Show them that you appreciate their contribution. At the beginning, talk them through the procedure. Do not assume they remember what you told them during the booking. The advantage of face-to-face conversation is that you can make use of visual aids. As I use EEG, our teddy wears one of the nets and introduces children and adults to the ‘special hats’. I also present parents with photos of other infants wearing the net and emphasize that the equipment is safe and baby friendly. Parents find these helpful, as they can touch the sensors and ask questions about other infants’ experience of the net.

Entertain to collect data

Now, to the most important bit! As any developmental researcher will tell you, you need some attractive tricks to encourage the infant to cooperate with you and willingly participate in the session. If you need them to stay still but they are fidgeting, giving them a toy to hold keeps them occupied. If you need them to look in a specific direction, using bubbles always works. I am an expert on blowing bubbles! Funny sounds such as clicks, grunts, chimes or playing peekaboo help, too. Do whatever it takes to make the baby calm, interested, happy or excited, depending on your task. At the end of the session, regardless of if or how the infant managed to complete the task, thank the parent for the visit and praise the infant for great work. Even if the baby cried or could not sit still and you did not collect any meaningful data, do not take it personally. They are babies! Accepting that these things happen in developmental research will help you keep your inner peace!

This list is by no means exhaustive and depends on your specific research, but I hope you get the feel of developmental data collection. It is a lengthy process but can be fun, too! Enjoy!

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Hints and tips:

Making the undergraduate participant experience more enjoyable and, dare I say, fun

Alex Bradley

Many of us will be acutely aware of how difficult it can be to recruit undergraduate participants. Despite the potential educational value of research for undergraduate participations it can be felt by participants to be a boring, tedious and even unpleasant experience. As experimenters, it is in our own interest to provide as an enjoyable and fun experience for participants as possible, since this will lead to easier recruitment for ourselves and others in the future. This article offers practical suggestions for how we can improve the participant experience and highlights the barriers that might deter researchers from attempting to make psychology experiments more enjoyable.
first assess how enjoyable and fun undergraduate psychology experiments are, make the case for why it is beneficial for experimenters to offer an enjoyable experience to undergraduates and, finally, offer some practical suggestions as to how we might improve the experience we provide for our student participants.

How enjoyable and fun do undergraduates find psychology experiments?

From the limited evidence available to us the signs are not good. For example, out of 208 students on an introductory course in psychology who were asked ‘Other than fulfilling your requirements, what did you gain from participating in the psychology experiment(s)?’, only 21 (10.1 per cent) gave answers that suggested they found the experience fun or interesting (Darling et al., 2000). Brody et al. (2000) interviewed 65 undergraduates on their experiences and reactions to psychology experiments and found that 41 per cent of their experiences were negative with the most common accounts suggesting that psychology experiments were boring, tedious, invasive, used unpleasant stimuli, and seemed worthless to participate in. Finally, the findings from Coulter’s (1986) survey of undergraduate participants highlighted that a substantial number of participants found the experience of participating in research to be boring, irrelevant, and a waste of time. It’s not all doom and gloom, however, with students preferring to engage in research to earn credits rather than being involved in mass testing or essay writing (Bowman & Waite, 2003). Still, that is not exactly a glowing endorsement for the current state of undergraduate participants’ experiences in psychological research.

Making the case for why it is beneficial for researchers to improve the undergraduate participant experience

Improving the participant experience will incur a cost of both time and effort and since researchers are often very busy with multiple tasks requiring their attention, it is only natural to ask: why should we try to offer a more enjoyable experience to our undergraduate participants?

In short, participants are the life blood of psychology. For instance, PhD students will not pass their vivas unless they can show that their work constitutes three years of work, which for most means collecting participants, running studies, analysing, and writing them up. Lectureships usually require a proven track record of being able to conduct and publish research which for many means the need to collect participants, analyse data, and write up studies. To attain the position of a professor you need to be able to prove that you have substantially added to a given body of knowledge and can win grants, both of which require an ability to be able to conduct and publish research which for the majority means collecting participants, analysing, and writing up. At each of these professional levels there is a necessity to collect participants because without this there can be no analyses or write up of studies. The argument so far, I hope, will convince you of the need for participants but perhaps not necessarily why we should aim to offer the best experiences we can.

To make this point, I turn to an argument used within economics that supports the prohibition of deception. Economists argue that honesty from an experimenter to a participant is a public good and if there is deception, expected or uncovered, then it contaminates the public good, ultimately altering the behaviour of the participant in the present and potentially future experiments (Ledyard, 1994). From a systematic review, Ortmann and Hertwig (2002) found support for direct deception influencing cognitions and the affect felt by participants. For example, studies reported that participants who had been deceived were more likely to feel upset, annoyed and uncomfortable and believed less in the value of the experiment (Ortmann & Hertwig, 2002). There is also evidence to support the idea that direct deception when paired with low pay-offs
from economic games led to substantially few participant returning for a future study (Jamison et al., 2008). This line of reasoning could be extended to argue that providing an enjoyable participant experience is also a public good, which if maintained by all the researchers within a psychology department would make data collection easier for present and future researchers. Conversely, if a single researcher offers a particularly negative experience (i.e., making the study overly long, tedious, and boring) then that participant is unlikely to engage in future research studies and could potentially discourage others from also participating in psychological studies, making future recruitment for other researchers more difficult. This highlights that it is every researchers’ responsibility to provide a positive experience to all undergraduate participants.

If these two arguments have convinced you of the imperative to provide the best possible participant experience, but you wonder how on earth a memory test, visual search or questionnaire can make an enjoyable experience, then hopefully the suggestions below might be a good place to start.

**What can we do as researchers to try to create better experiences for our participants?**

Given the lack of research on the participant experience in psychology, little is known about what would make for a more positive experience. Yet, our discipline and others have relevant insights that might be fruitfully applied:

- **Acting professionally** which entails, amongst other things, having the relevant equipment and materials at hand so when participants do arrive they can begin the study without delay. Experimenters ought to give participants a warm welcome and provide them with an appropriate briefing to the experiment (Fanning & Gaba, 2000). Finally, as experimenters, try to be enthusiastic and interested in what you are doing because if the researcher is not then how can we expect the participant to be so?

- **Taking inspiration from educational gamification**, which looks at adding game-like components to the learning process, could be beneficial by making research more engaging and enjoyable. Three core parts of educational gamification are providing goal focused activities, reward mechanism (leader boards, badges, points etc.), and tracking progress (Glover, 2013). For example, providing an accuracy goal for participants to strive for in visual search tasks, displaying leader boards in memory tasks, or adding progress bars to online questionnaires are all examples of small things that might improve the participant experience. A recent review of gamification applied to the field of education suggested that it aided skill development, enhanced motivation, and maximised learning in students (de Sousa Borges et al., 2014).

- **Improve debriefings** by providing a supportive environment where students are valued, respected, and feel able to share their thoughts and experiences. A review on the role of debriefing also provides other aspects of good practice such as: asking open questions, providing positive reinforcement, and facilitating self-debriefing (Fanning & Gaba, 2000; Fanning & Gaba, 2007).

- **Expressing gratitude** to participants for their time and effort is both morally right and empirically sensible. For example, Grant and Gino (2010) found that expressing gratitude led the beneficiaries to feel more socially valued (i.e., sense of feeling wanted and valued), offer more help to the experimenter and go on to help others. This finding in the context of participants and researchers means one researcher expressing gratitude to a participant increases the likelihood of that participant going on to help that researcher and other researchers in the future.

I am sure a lot of research incorporates to varying extent some of these good practices, and I am also sure that we as researchers...
Making the undergraduate participant experience more enjoyable and, dare I say, fun
can do even better if the issue is brought into focus and we are willing to give it some time and thought when designing studies procedures.

Barriers
Many institutions operate research participation schemes which is the requirement that students, usually on introductory courses, participate in a certain number of hours in psychological research in order to acquire credits for their course. These research participation schemes provide a ready supply of participants desperate to fulfil their credit hours which means that researchers have little to no incentive to make their experiments enjoyable, interesting, or fun. A more scientific concern is that making experiments more enjoyable or fun will lead to the loss of experimental control and potentially contaminate results by increasing the variability in responses. The converse of this is that making experiments too boring and tedious may lead to participants losing concentration or indeed caring, which again would lead to more variability in responses. A pragmatic solution is to find a balance between making the experiment more enjoyable and fun without taking away from the gravity and rigour of the scientific endeavour. Hopefully this is an area where future research might be useful to help us find this balance.

Conclusions
The available evidence on the participant experience suggests that participants can see the education value of taking part in research, but a substantial number feel that the experience is boring and tedious with only a small minority finding participating in research to be fun or interesting. It is argued that providing an enjoyable participant experience could be seen as a public good which would increase the likelihood of participants returning to help experimenters they previously assisted and participating in other studies too. Although little evidence actually exists as to what exactly would make a more enjoyable participant experience, suggestions such as acting professionally, applying gamification techniques (i.e. leader boards, progress tracking etc.), providing appropriate debriefings, and expressing sincere gratitude could improve the participant experience. Of course, there will be barriers and objections like fear that making experiments more enjoyable reduces experimental controls but I feel this is a topic that deserves more of our attention because, ultimately, everyone has the potential to gain from enhancing current practices. Participants have a more enjoyable experience and researchers benefit in the short-term by getting potentially better data from more engaged participants and in the long-term from easier recruitment as participants return to do future studies or ask their friends to take part.

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References


Software review:
OpenSesame experiment builder
Jonathan Jones

OpenSesame is a free and open-source experiment builder that can be used on Windows, Mac, Linux and Android operating systems. OpenSesame provides the accessibility of a graphical interface and the versatility of Python, a high-level programming language, for designing more complex tasks. In this review, I will provide an overview of OpenSesame’s main features, explain how to begin building an experiment utilising the OpenSesame functionality, and describe what help and support is available.

Main features
The prominent feature of OpenSesame is its intuitive and well-organised Graphical User Interface (GUI; see Figure 1). Functions are represented as graphical items that can be simply dragged-and-dropped into the structure of the experiment. Windows can be hidden and shown as desired; the main window presents information about the selected item, the overview window presents the temporal structure of the experiment, and the toolbars provide quick access to functions and items. The items (see Table 1) support text and image display, keyboard and mouse input, looping, feedback, data logging, forms, Python inline code, audio playback and synthesis, video playback, and input from eyetrackers, serial response boxes, joysticks and gamepads. Additional windows in the GUI include the ‘variable inspector’ showing a list of the experimental variables, the ‘file pool’ showing files associated with the experiment, and the ‘debug window’ showing an interactive Python terminal.

Figure 1: Graphical interface.
logging, forms, python inline code, audio playback and synthesis, video playback, and input from eyetrackers, serial response boxes, joysticks and gamepads. Additional windows in the GUI include the ‘variable inspector’ showing a list of the experimental variables, the ‘file pool’ showing files associated with the experiment, and the ‘debug window’ showing an interactive Python terminal.

Python inline coding offers the versatility to design more complex experiments. The Python language emphasises readability and concision; it is, therefore, relatively accessible for individuals with little or no programming experience. On the other hand, experienced programmers may prefer to write entire sections of the experiment in Python code, making use of the predefined OpenSesame objects and functions.

OpenSesame supports four different backends: ‘legacy’ (PyGame), ‘xpyriment’ (Expyriment), ‘psycho’ (PsychoPy) and ‘droid’ (Android). The back-ends differ in their functionality, stability, timing properties, and how well supported they are on certain platforms. Selecting the most appropriate back-end is the first step when building your experiment and will be discussed in more detail in the following section.

**Table 1: Item functions.**
Adapted from Mathôt, Schreij and Theeuwes (2012).

<table>
<thead>
<tr>
<th>Item name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sequence</td>
<td>Structure</td>
<td>Holds items to be run as a sequence. Items can be run conditionally, using ‘Run if’ statements</td>
</tr>
<tr>
<td>loop</td>
<td>Structure</td>
<td>Repeats a sequence of items and defines variables</td>
</tr>
<tr>
<td>coroutines</td>
<td>Structure</td>
<td>Runs items in parallel</td>
</tr>
<tr>
<td>repeat_cycle</td>
<td>Structure</td>
<td>Conditionally repeats a sequence</td>
</tr>
<tr>
<td>sketchpad</td>
<td>Stimulus presentation</td>
<td>Presents text, images and drawings</td>
</tr>
<tr>
<td>feedback</td>
<td>Stimulus presentation</td>
<td>Specialised sketchpad that presents feedback</td>
</tr>
<tr>
<td>sampler</td>
<td>Stimulus presentation</td>
<td>Audio playback</td>
</tr>
<tr>
<td>synth</td>
<td>Stimulus presentation</td>
<td>Simple sound synthesis</td>
</tr>
<tr>
<td>media_player_mpy</td>
<td>Stimulus presentation</td>
<td>Video playback</td>
</tr>
<tr>
<td>keyboard_response</td>
<td>Response collection</td>
<td>Collects a keyboard response</td>
</tr>
<tr>
<td>mouse_response</td>
<td>Response collection</td>
<td>Collects a mouse response</td>
</tr>
<tr>
<td>joystick</td>
<td>Response collection</td>
<td>Collects a joystick or gamepad response</td>
</tr>
<tr>
<td>srbox</td>
<td>Response collection</td>
<td>Collects responses from a serial response box</td>
</tr>
<tr>
<td>Forms</td>
<td>Response collection</td>
<td>A group of items to present text and collect input from check boxes and text boxes</td>
</tr>
<tr>
<td>PyGaze</td>
<td>Response collection</td>
<td>A group of items to support eye tracking</td>
</tr>
<tr>
<td>logger</td>
<td>Data logging</td>
<td>Logs data to a .csv file</td>
</tr>
<tr>
<td>inline_script</td>
<td>Inline scripting</td>
<td>Supports Python inline coding</td>
</tr>
</tbody>
</table>
Building your first experiment

Before designing your experiment, you need to set the most appropriate back-end for your needs. As a rule-of-thumb, ‘legacy’ offers maximum stability across operating systems, ‘xpyriment’ offers high temporal precision (particularly useful for reaction time data), ‘psycho’ offers powerful stimulus generation (e.g. random dot patterns), and ‘droid’ allows you to run the experiment on Android devices. Once you have selected the back-end you can set the default values for your experiment’s resolution, background colour, and font.

Items can be easily added to the structure of your experiment by dragging-and-dropping from the toolbar to the ‘Overview’ window. The structure of your experiment is primarily defined by sequence and loop items. Sequences hold items that you want to run in a sequence. Usually, a main sequence will contain a practice sequence and a block sequence, the latter of which will contain the items for your trials. A useful feature of sequences is the conditional ‘Run if’ statements that can be set for each item, allowing you to control when items should and shouldn’t run. Loops will repeat an item and will typically be used to hold a sequence of items that constitutes a trial. Within a loop you can define your variables manually in a table or use the wizard to automatically produce a full-factorial design. You can also set how many times you want the loop to repeat, the order of the trials (sequential or random) and a conditional ‘break if’ statement, for situations where the loop should terminate early.

The items that you add to your sequences will depend on the nature of the experiment you wish to run. The most commonly used items are the sketchpad, for presenting text and visual stimuli; keyboard_response, for collecting a keypress and associated timestamp; feedback, for presenting performance-related feedback; and logger, for logging your data. However, a range of functionality is supported (see Table 1).

For tasks beyond the capabilities of the graphical items, OpenSesame supports Python inline scripting and has many predefined functions that support the design of more complex tasks. The inline_script has two tabs: prepare and run. Code that can be run in advance, such as the generation of visual stimuli, should be written in the prepare tab and time-sensitive code should be written in the run tab. This procedure reduces the processing load and lag during trials.

Support

OpenSesame is supported by a range of online resources (link below). The comprehensive online manual explains how to use OpenSesame and all of its functions. There are video tutorials for designing a basic experiment using the GUI, an experiment using basic Python, and an experiment using more advanced Python. It is recommended that you at least follow the first tutorial before attempting to build your own experiment. Finally, there is a forum that is regularly checked by the developers who are happy to help you with any queries relating to the GUI, OpenSesame functions and Python coding.

Summary

For postgraduates who are unfamiliar with a programming language, OpenSesame offers an intuitive and accessible graphical interface that can be used to build a range of basic experiments in a relatively short amount of time. More complex tasks can be programmed utilising Python inline code and a range of online support is available.

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Seminar review:

Health Psychology in Public Health Network (HPPHN)

Physical activity: Influences and interventions

Thursday 22 September, Focolare Centre for Unity, Welwyn Garden City

Emma Norris

This review outlines discussions emerging from a one-day seminar on physical activity, run by the Health Psychology in Public Health Network (HPPHN). The importance of physical activity for health and wellbeing is highlighted, with the varied effectiveness of interventions and implications for future work discussed.

Physical activity is defined as any bodily movement that results in energy expenditure, encompassing exercise and sport for health gain as well as all other bodily movement (Caspersen et al., 1985). Inactivity has been shown to cause 9 per cent of premature mortality globally, with confirmed relationships with coronary heart disease, type 2 diabetes, breast and colon cancers (Lee et al., 2012). Current UK government guidelines recommend adults aged 19 to 64 years to achieve 150 minutes of moderate intensity activity a week such as brisk walking, cycling or running, to include muscle-strengthening activities on two of these days (Department of Health, 2011). However, objectively-assessed figures from the Health Survey for England (a representative sample of UK residents) shows that only 6 per cent of men and 4 per cent of women meet these guidelines (Chaudhury & Esliger, 2009). This daylong seminar discussed the development and evaluation of interventions to improve these levels of physical activity, grounded in perspectives in health psychology and public health. It was the seventh event run by the Health Psychology in Public Health Network (HPPHN), an organisation which aims to bring together health psychology and public health professionals to improve population health.

Firstly, Chair Elect of HPPHN (and PsyPAG alumni) Dr Angel Chater from University of Bedfordshire (Chater, 2015) introduced us to the organisation, the importance of physical activity and how it may be addressed with behaviour change theory (Michie et al., 2013; Michie et al., 2011). Angel discussed her recent systematic review into effective behaviour change techniques (BCTs) for physical activity promotion in adults (Howlett et al., 2015), which found BCTs such as Biofeedback, Action Planning, Demonstration of the Behaviour and Self-reward to be present in effective physical activity interventions (Chater et al., 2016). This welcome was followed by some direct examples of scalable interventions to increase physical activity from Professor Stephen Sutton from University of Cambridge. He outlined his experiences of researching brief face-to-face and digital interventions and was honest in the lack of effects he has found (such as the ProAc-
tive study; Kinmonth et al., 2008). It was refreshing as an early career researcher to see such an experienced senior academic reflecting on their work in a truthful and public manner. Whereas Professor Sutton’s work described individual-focused interventions, the remaining speakers discussed more social and environmental approaches to activity promotion. For example, Piers Simey, a Public Health Consultant from Hertfordshire County Council gave a retrospective report of 20 years of physical activity research. Poignantly, he noted that ‘we are the first generation to need to make a conscious decision to integrate activity into our daily lives’. This quote really encapsulates the need for activity interventions to combat ever-dwindling sources for activity in our daily lives. He highlighted various target areas for physical activity efforts, notably including the mobilisation and infiltrating of communities. By creating a social movement, various schemes have had real success in driving communities to be more active, such as ‘Pokémon Go!’ for example.

Following this, Professor Andy Jones from University of East Anglia outlined some of his work into the effects of the physical environment on physical activity. As seen in Professor Sutton’s presentation, a complicated picture of findings was seen here, with few consistent associations between neighbourhood characteristics and activity levels. More consistent positive associations were seen for active travel promotion in children such as walking buses (where children walk in a group along a set route to and from school, picking up or dropping off ‘passengers’ at ‘bus stops’; Coombes et al., 2014), with interventions such as these discussed to be the best bet environmental intervention from current knowledge. After lunch, Sarah Ruane from Sport England gave an interesting insight into the organisation’s new strategy, which focuses on increasing population activity levels rather than sport alone. Responding to recent governmental funding changes (HM Government, 2015), Sport England are now embedding behaviour change theory to identify and target specific populations and provide appropriate activity packages for them. Finally, to end the day, Dr Benjamin Gardner from Kings College London presented a lively presentation into the psychology of workplace sedentary behaviour. Sedentary (seated) behaviour has received a recent outpour of research and media interest for its independent negative effects on health alongside physical activity (Katzmarzyk et al., 2015). Dr Gardner stressed the need for researchers to consider social psychology for us to better understand the complexities of workplace sitting. Why do people sit for prolonged periods of time? We arguably need to consider the hierarchical nature of the workplace, peer pressure, work targets and group norms before we should drive funds and efforts to developing interventions (Gardner et al., 2016). This highlighted for me how health psychologists and public health researchers alike can be too eager to launch into interventions to address activity and sedentary behaviour, without really understanding the contexts at play (Ioannidis et al., 2014).

The day presented a range of research showing the complexities of developing effective physical activity interventions. Events such as this which pool experts from across research and practice are needed to generate future collaborations and work towards improving population health. My only criticism of the event would be its lack of standing areas or standing applause as I’ve observed in other physical activity events. In all, the event provided a great insight into the implementation and evaluation of physical activity interventions across research and practice.

Thanks to Michelle Constable, Honorary Secretary of HPPHN for inviting me to review and host a PsyPAG stand at the event.

The Health Psychology in Public Health Network (HPPHN) is a national network that brings together professionals with an interest in behavioural science and public health. Their members come from a variety of back-
grounds and specialist areas, and include health psychologists, public health consultants and practitioners, eminent academics, PhD/MSc students and health psychology trainees. You can keep up to date and join HPPHN in the following ways:

Website: www.hpphn.org.uk
LinkedIn: www.linkedin.com/groups/5182547
Twitter: @newshpphn
Facebook: www.facebook.com/HPPHN

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References

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Conference review:
BPS Annual Conference 2016
Karim Mitha

I had the privilege of being awarded a BPS Postgraduate Bursary to attend the BPS Annual Conference in Nottingham in April 26–28 2016. For me, this was a wonderful opportunity to not only present some of my work related to mental health and stigma in Muslim diasporic communities, but also to get a sense of the cross-section of research being conducted across the various psychological disciplines. I was amazed by the wide variety of topics, panels, and attendees from all over the UK, and, indeed, from different corners of the world! The conference, spanning three days, was a whirlwind of activity including plenary lectures, breakout sessions with multiple talks straddling different themes in psychology, as well as a signing ceremony of a new memorandum of understanding between the BPS and its New Zealand counterpart!

As a cultural psychologist, I was quite intrigued by the wide range of cross-cultural issues being considered – including work examining psychological wellbeing in the United Arab Emirates, working to identify students with learning disabilities in Saudi Arabia, the role of religiosity in student perceptions to casual sex in the UK, and challenges of de-stigmatising mental health issues in central Asian countries such as Belarus and Kazakhstan. This speaks to the truly international and cross-cultural applicability of psychologists, and shows it spans a wide variety of domains. What I found particularly interesting was the panel of addressing spiritual and religious needs and how some sense of spirituality played an instrumental role in psychological wellbeing, selfhood, identity, and development of compassion and altruism. The presentations in this theme from researchers at Leeds Beckett and Nottingham Trent universities used interpretive phenomenological analysis to examine respondents from a variety of religious backgrounds and how notions of spirituality and awakening were seen in populations wide ranging from users of Alcoholics Anonymous to ‘reverts’ to Islam. The inclusion of this religion and spirituality theme in psychology shows that there is a valid consideration of psychology in religion and vice versa, which can run contrary to often extant assumptions of the disciplines being irreconcilable.

The plenary lectures were quite interesting and relevant. What I was struck by was just how GPs have been demonstrating regarding the imposition of the new junior doctor contract and how, despite deep intrinsic motivation, they have concerns about their working environment affecting their health, this, too, was echoed by those working in mental health and caring professions. The first plenary lecture by Professor Gail Kinman discussed how psychologists have a high sense of self accomplishment, but also a large degree of burnout. This has implications for their own sense of resilience and how coping strategies such as emotional dissonance and presentee-ism may actually lead to a sense of de-motivation and high attrition post-training. The plenary lecture by Dame Vicki Bruce on facial recognition was eye-opening in just how prevalent face fallacy is – and the fact that those at the passport office are no better than undergraduate students at facial recognition! Whilst this may be an interesting tidbit to recall the next time one is held up at UKVI or the Home Office, Dame Vicki Bruce’s lecture also pointed out more serious consequences this can have in terms of identifying people for judicial and legal purposes. However, there was hope in that she noted there was
a difference between resemblance and identity and that new composite software are getting better at compiling a more accurate image of facial recognition.

The conference also enabled awareness of new research methods in psychology, including cyberpsychological tools – showcasing how psychology continues to be applicable and adaptable to modern technologies. For instance, a presentation on examining autism spectrum disorders post age 50 discussed how multiple modes of interaction were used with respondents, including telephone/in-person/e-mail interviews. There was also discussions on how technology could aid in recovery of depression and anxiety through Computerised CBT and internet-based therapy sessions, which were said to be more effective, less time intensive, and helped to reduce stigma.

One of the opportunities the BPS conference enabled was emerging scholars to mix and mingle with well-established ones. I particularly remember one poster presented by Rachael Worrell from the University of Bedfordshire whose poster on how women’s clothing choice impacted other’s perceptions of their intelligence generated quite a flurry of interest! For me, personally, the highlight was being able to meet and speak with eminent scholars such as Professors Paul A. Singh Ghuman and Martyn Barrett. These two scholars, primarily in education and social psychology, have worked significantly in examining issues of race, identity, and multiculturalism. Hearing Professor Ghuman recount his own life story whilst receiving the Award for Promoting Equality of Opportunity and learning first-hand what motivated him to pursue studying inequalities and ethnic minorities in Australia and the UK was inspirational, particularly when he narrated how he effectively countered the argument of racialist individuals when discussing ethnic inequalities. His experiences and work has great relevance today, particularly when faced with discourse regarding UKIP, Brexit, and immigration. Indeed, the poster by Rachael Booth regarding accusations of racism by UKIP in the 2015 General election showed how discourse regarding racism can be crafted and moulded to suit political purposes.

Finally, the conference also addressed the topic of aging. What was striking was that many speakers in the themed panels discussed issues in older individuals that one would intrinsically associate with younger people including issues of body image, eating disorders, sports, sexuality, the ‘peter pan syndrome’, and gendered dynamics of masculinity and femininity. This shows there is still quite some work to do in de-stigmatising mental health conditions across the board and the life-span, and, as the panel on political psychology indicated, the fact that the former Norwegian Prime Minister, Kjell Magne Bondevik, has been the only political leader to talk openly about his mental health shows that there is still work to do in this area, and the importance that we, as psychologists, and the BPS itself have to promote and disseminate our work.

I look forward to the next annual conference in Brighton in 2017!

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Conference review:

Society for Applied Research in Memory and Cognition (SARMAC) XII Conference
Divya Sukumar

From 3–6 January 2017, Sydney played host to the twelfth Society for Applied Research in Memory and Cognition (SARMAC) conference. This article discusses the wide range of presentations at the conference.

SARMAC Conference Review

Earlier this year, the Society for Applied Research in Memory and Cognition (SARMAC) held its biennial conference in Sydney, Australia. Home to beautiful beaches, an iconic harbour, and remarkable wildlife, Sydney was an ideal host for the twelfth SARMAC conference which took place from 3–6 January 2017.

The conference included a brilliant line-up of keynote speakers and kicked off with a public lecture by Distinguished Professor Elizabeth Loftus and her seminal research on the malleability of memory, in particular how some of our recollections of the past may be entirely fictional. Next, Professor Richard Bryant offered us insights into the nature of intrusive memories and Professor Qi Wang highlighted how remembering our past can be culturally motivated. Then, Professor Neil Brewer suggested that we move away from asking eyewitnesses to identify the culprit from a line-up – given eyewitnesses’ propensity to be incorrect – and instead, take an altogether novel approach such as asking eyewitnesses to judge how confident they are that each photo the police present is a photo of the culprit. The final keynote speaker, Professor Maryanne Garry, brought the conference to a close with an engaging look at how people come to hold false beliefs and memories. Professor Garry also made a call to arms to SARMAC colleagues – reminding them that the research they do has crucial applications for policy and practice, and that now, more than ever, society needs their science to guide government reforms.

Notably, SARMAC is an ever-growing, diverse, and international society, and each conference showcases research on a wide range of applied topics (Crozier et al., 2016). SARMAC XII was no exception. Across three days of symposia, papers, and posters, SARMAC attendees were privy to the latest research on memory and cognition in areas including, but not limited to; climate change, clinical disorders, video games, education, family, the arts, and eating behaviour. For instance, one symposium explored the role of memory in artistic pursuits such as trapeze, acting, music, dance, and film editing, while another symposium examined why people reject scientific evidence demonstrating climate change. Yet another symposium looked at the relationship between playing violent videogames and aggressive behaviour.

In addition to these varied and exciting applied research areas, a trademark of SARMAC conferences is forensically relevant research on memory and cognition (Crozier et al., 2016). Indeed, there were several presentations, including my own, on psychology-law topics such as eyewitness memory, police investigations and interrogation techniques, alibi generation by suspects, deception detection, and jury deliberation. I found the poster session incredibly useful as academics and students alike offered insights into my research on how people are more likely
to believe that suspects who invoke their right to silence are guilty. Indeed, following the conference, some academics were kind enough to send me some relevant research papers that could help explain our findings.

Another theme that emerged at the conference was the role and impact of digital technology, social media, internet usage, and virtual reality on our memories and cognitions. For instance, presenters examined whether people can detect digital manipulations in the shadows and reflections in a scene and how the internet influences our memory for information. Indeed, I found these presentations particularly interesting given how ubiquitous digital technology is in our everyday lives.

Aside from research presentations, SARMAC offered students the opportunity to network and to learn new skills. For instance, students had the chance to eat lunch with an expert in their area and to learn more about the keynote speakers’ fascinating research. Thus, I was lucky enough to hear about some of Professor Elizabeth Loftus’ famous cases first-hand. Additionally, in light of the replication crisis plaguing the sciences, Dr Alex Holcombe conducted a workshop on doing open, reproducible scientific research.

Of course, the conference wasn’t all work – SARMAC XII had a jam-packed social programme too. The festivities started with an Australian barbecue serving crocodile meat and vegemite on crackers, followed by an early morning breakfast at the famous Bondi Beach and a waterfront conference dinner boasting breathtaking views of Sydney Harbour Bridge and Sydney Opera House. The conference ended with a visit to the zoo to meet koalas and kangaroos – there were plenty of opportunities to make the most of a trip halfway around the world. Overall, I found SARMAC XII to be intellectually stimulating and student-friendly.

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References
Book review:

Detox your ego: 7 steps to achieving freedom, happiness and success in your life
Steven Sylvester

This article aims to review Steven Sylvester’s book, entitled: Detox your Ego. Steven Sylvester is a Chartered Psychologist and a retired professional sportsman. The book review includes: a summary of the book, an introduction of the author, and my views on the strengths and weaknesses of the book. This book includes a description of the ‘Leadership without Ego’ model and proposes a number of steps through which readers can increase success. This book is an interesting read, especially for those interested in sport psychology or the psychology of winning. However, the model proposed may have been clearer if it was outlined in further detail.

IN THE BOOK Detox your Ego, Steven Sylvester provides an interesting account of the ‘Leadership without Ego’ model and why the author thinks that it can help readers live a happier and more successful life.

Throughout the book Sylvester proposes that the key to leading a happier life is to do things for the good of those around us, rather than for our own purposes. The ‘Leadership without Ego’ model suggests that individuals must work through seven steps, which link to a person’s inner ego, outer ego or transformational ego. The steps linked to the inner ego are whether people: listen to who they are trying to win for, smile at their errors and take time to consider what they avoid. The steps linked to the outer ego are whether people: make an effort to do what they say and feel and have fun. The steps linked to the transformational ego are whether people: give to others and know what their purpose is. The author suggests that all of the seven steps need to be fulfilled in order for a person to live a happy life. However, the author does not suggest whether people should attempt to move through each stage one at a time, or whether all of the stages should be worked on at once.

Steven Sylvester, author of the book, is a Chartered Psychologist and a retired professional cricketer. Throughout the book Sylvester draws upon his personal and professional experience of winning and the pursuit of happiness and success to provide insight on how people can achieve success based on these seven steps.

In the book, Sylvester begins by discussing why ‘detoxing your ego’ is important, before outlining the ‘Leadership without Ego’ model. After this, each of the seven steps are clearly introduced, one chapter at a time, using case studies from the author’s career to example each step. Reflective questions are provided at each stage to help the reader think about the steps in relation to their life and also to think about how they can personally use these techniques to overcome their ego and think more selflessly. Furthermore, readers are encouraged to make their own ‘Awareness, Belief and Correction’ plans throughout the book.

Sylvester’s honest and personal insight into his own career and experience makes the book an enjoyable and appealing read. It also makes the book seem more than a ‘journey of self-discovery’. The author provides a variety of anecdotal evidence, ranging from sporting examples to business consultancy. The variety of case stories make the book relatable to all readers. The case stories bring the focus back to the key
message of the book. They also help to provide clarity regarding how the author wants readers to respond to the steps. As a reader it is sometimes unclear how one can achieve the ‘ego’ free option and it is through the case stories that I felt provided insight into how I could apply the individual steps to succeed.

As a Psychology PhD student, I was naturally intrigued by the ‘Leadership without Ego’ model proposed by the author. However, upon completion of the book, I wanted the author to provide more information about the model. There was little information about how the model was developed, how the steps were selected, why the author believes the steps all link to ‘ego’, selfishness/selflessness and therefore success and happiness, and how the concepts outlined in the book can be measured. Although the author clearly explains what the ‘Leadership without ego’ model is, and provides convincing anecdotal evidence, I expected more thorough details of the model to be included.

Overall, the book was an interesting read and I would particularly recommend the book if you are interested in sport, and the psychology of winning. However, if readers are to fully understand and appreciate the ‘Leadership without ego’ model, I think that more information on the development and specifics of the model are needed.

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We look forward to hearing from you…
A Judgement and Decision Making Poem
Sarah Bird

I submitted this ‘Ode on a Brain’ on behalf of my late student, Sarah Bird (24/11/1963–26/10/2016). Sarah came to UCL as a mature MSc student in 2011, before commencing a PhD in financial decision-making under my supervision in 2012. Enthusiastic would be a most appropriate word with which to describe Sarah. On hearing new talks, or learning new concepts, she would be wide-eyed and always seeking ways to integrate the material into her own research. Before her premature death from cancer in 2016, Sarah had given me access to her Dropbox folder, so that I could continue our research, especially with a view to publishing a paper she had been working on for some time (look out for it!). A file labelled ‘Ode on a Brain’, dated November 2012, caught my eye. I think it provides a nice example of that enthusiasm and wonder with which she met psychological research. That wonder at the beginning of a PhD journey might resonate with others. Meanwhile, Sarah’s enthusiasm and energy is much missed at UCL.

Adam J.L. Harris (PhD supervisor)

Ode on a brain: Bounded rationality System 1 System 2
Whoosh. Draught touches skin. Glance shot there. Attention! Flash bulb! Ouch
Look away – sliiiide back .
Look /don’t look.
Boom boom boom
There, on the threshold. Attention! Something new, catches me holds me. Baby’s long gaze for something new.
New? No. BANG! SNAP!
Locks tumbling, falling into place,
Recognition, known… partially. Gestalt traces.
Pattern, pattern - pieces falling into place click click – clickety click
Fill the gaps, make it whole. The whole picture. Who? What? When?
Iris pattern. Brrrrr searching memory files. Iris eyes. Familiar eyes. Ahhh familiarity is for liking
No choice jumping on board
Nueron music little melody, in comes the wind and the brass and the percussion – swelling orchestra eyes swelling, stinging tears. Bursting bursting. Patterns colliding.
What’s the prospect? – risky, risky don’t lose face. Lost, losses take a gamble.
Approach. Avoid.
Kind smile. Warm eyes. Take the best.
Liking is for doing.
Satisfice
comforting concinnity

Sarah Bird (24/11/1963–26/10/2016)
PhD student (2012–2016)
Department of Experimental Psychology
University College London

Foreword written by Dr Adam J.L. Harris
Department of Experimental Psychology
University College London
Email: adam.harris@ucl.ac.uk
DOP Awards Night
The DOP awards ceremony highlights our talent, ability and contributions to the work environment and we will recognise these at our 2018 conference. It is an excellent opportunity to nominate a deserving occupational psychologist or student, or even self-nominate for one of the awards.

What else can I expect?
• Up to seven streams of peer-reviewed papers and invited speakers
• Complimentary half-day skills building workshops (bookable in advance)
• Fringe meetings such as our popular ‘Meet the Keynotes’ sessions
• Poster displays, practical demonstrations and exhibition stands
• Professional advice, support and other onsite services
• Excellent social and entertainment programme
Confirmed Keynote Speakers
Professor John Antonakis, University of Lausanne
Professor Robert Hoffman, The Institute for Human & Machine Cognition (IHMC), Florida
Dr Elaine Pulakos, President of PDRI, USA

Interested in sponsoring the conference or exhibiting?
Please email Michael Niskin for information on the packages we can offer
michael.niskin@cpl.co.uk

Planning to attend as a delegate?
Registration is open and early bird rates apply until 8 November 2017. Fees will increase by £50.

2017 conference delegate highlights
'It was my first DOP conference. It was inspiring and fresh. The connections I made were fantastic and the opportunities to expand my knowledge.'

'Very pleased I took the risk of putting my research out there – very rewarding if nerve-wracking! The networking opportunities are excellent and people were overwhelmingly welcoming and friendly. Some fascinating insight into a range of subjects, excellently presented. Inspiring and motivating to be a first-timer and be part of an experience and people who share my values about work.'

'I really enjoyed presenting myself as the feedback was really helpful and I loved the opportunity to network and discuss topical issues with a variety of people.'

'I loved meeting some fab people working in similar fields with loads of useful insights to share and willingness to support each other in future.'

'I found many of the talks very interesting and engaging and the keynote speeches I attended I found very relevant.'

'Ambassador programme was really helpful as a first time attendee.'

For more information visit www.bps.org.uk/dop2018 or email dopconf@bps.org.uk
Dates for your Diary

27–28 October 2017
Psychology of Education Section Annual Conference, Edinburgh

11–12 December 2017
Division of Sport & Exercise Conference, Glasgow

10–12 January 2018
Division of Occupational Psychology Annual Conference, Stratford-upon-Avon

11–12 January 2018
Division of Education and Child Psychology Annual Conference, Brighton

17–18 January 2018
Division of Clinical Psychology Annual Conference, Cardiff

The BPS website has a full list of BPS events: www.bps.org.uk/events

Psychology in the Pub events

Exeter
27 September – ‘Constructing your reality’, Dr Barry Cripps
25 October – ‘Do men and boys need help from psychologists?’, Dr John Barry
29 November – ‘Adoption – from mythical idealisation to political and personal reality. Learning from 10 years of Adoption Support’, Dr Joanna North

Plymouth
16 November – ‘(Some of) the psychology of swearing’, Dr Richard Stephens
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Dr Jennifer Wild, Consultant Clinical Psychologist & Senior Lecturer, Institute of Psychiatry

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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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