Health Special Issue

Do we get by with a little help from our friends? Social drinking and risk-taking behaviour

The role of embodiment in third wave mindfulness based cognitive therapies

Childhood obesity: ‘Super Dynamic Food Dudes’ to the rescue

Also in this issue:

To Master or Not to Master? Reflections on completing two Master degrees
Healthy body and mind: Tips for postgraduate students chained to their desk
Confirmed Keynotes
Dr Helen Bevan, Professor Rosalind Gill, Professor James W. Pennebaker & Dr Martin E.P. Seligman

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As we turn to the next quarter of 2017, we’d like to welcome you the 102nd issue of PsyPAG Quarterly! We are very excited to share this special issue on the topic of health with you, which we hope shows the diverse ways through which different sub-disciplines of psychology facilitate the greater understanding of human health. A special issue on health would not be complete without consideration of both mental and physical health, as well as empirical research and applied work – you will find articles on all of these topics in this issue.

We open with a discussion on current research in male eating disorders by Emma Kinnaird, who describes disorders from anorexia to bigorexia. On a related topic, Katie Groves examines research on maladaptive visual processing as an underlying mechanism of body image disturbances. Katy-Louise Payne introduces us to her research which suggests that social vulnerability and compliance may help explain why some individuals with autism spectrum disorder commit offences. In psychology, we know that behaviour is complex, and health-harming behaviour, such as alcohol consumption is no exception to this. Marianne Erskine-Shaw discusses the many ways in which the social context of a drinking situation can influence alcohol-induced risk-taking behaviour. On the other hand, many people use energy drinks to give them a concentration boost when a deadline is looming, however, as our guest author for this issue describes, energy drinks can have unwanted side effects. Dr Gareth Richards describes his doctoral research examining the potential role of energy drink usage in mental health problems, low academic attainment and disruptive behaviour.

We have two fantastic hints and tips articles for you in this issue of PsyPAG Quarterly. Firstly, Dr Jan Smith reflects on her experiences of completing both a research methods and health psychology masters degrees. Beth Armstrong describes ways in which postgraduates, who often feel chained to their desk, can maintain a healthy mind and body. Beth has worked with mindfulness blogger Jen Mak to provide advice on procrastination, motivation and isolation (to name only a few), and personal trainer Eddie Pike to give you an exercise programme you can do without leaving your office.

We then turn back to some more discussion papers, but this time with an applied focus. Rebecca Aloneftis kicks off this section with a discussion of the role of one component of mindfulness – embodiment – in third wave mindfulness based cognitive therapies. Jordi Asher describes how controversial perceptual training can be used for visual rehabilitation in stroke sufferers. This is followed by a discussion by Katy Jones of the importance of early intervention in children identified as having autism spectrum disorder, and how pre-school autism communication therapy could be used as a pre-assessment intervention to help reduce clinical symptoms. We finish this section with a paper by Catherine Sharp describing the development of the ‘Super Dynamic Food Dudes’ characters to increase fruit and vegetable consumption and physical activity in children.

Also in this issue, Suhana Begum interviews Dr Angeliki Bogosian, a prominent researcher in health psychology. Dr Bogosian offers some insights into her research on how people and their families adjust to neurological conditions, highlights of her career and running the Reykjavik Marathon 2016, amongst other things. Roxanne Armstrong then reviews the fantastic book Recovering from Psychosis by Stephen Williams.
Roxanne points out the unique personal perspective Williams provides in his book by combining empirical research with his own experiences of suffering from psychosis and engaging in current therapies. We close this issue with a review by Sue Hazleton and Michelle Constable of the combined European Health Psychology Society and BPS Division of Health Psychology Annual Conference 2016.

At the back of this issue (and in fact every issue), you can find information on upcoming conferences. This includes the annual PsyPAG conference, this year hosted by Northumbria University in Newcastle on 26–28 July. Abstract submission and registration are now open (http://tinyurl.com/j94yzs8). You can present both completed work and work in-progress, and if you have an idea for a workshop we would love to hear from you! Finally, this issue also contains a list of dates for Psychology in the Pub events. These are a wonderful way to learn about the latest ideas in psychology in an informal setting over a drink. These events are designed to be accessible to non-psychologists, so take your family and friends!

Happy reading!

Maria Raisa Jessica (Ryc) Aquino & Victoria Whitelock

*On behalf of the PsyPAG Quarterly Editorial Team*
HELLO AND WELCOME to the Spring 2017 issue of PsyPAG Quarterly! I trust you are all well-rested from the Christmas break and are looking forward to a productive 2017. I’d like to congratulate Jimmy Couzens on lead editing an excellent Psychology of Sexualities special for the December 2016 issue of PsyPAG Quarterly. If you haven’t read it yet, be sure to do so via our website: http://www.psypag.co.uk/the-quarterly/

I’d like to first reflect on the successes of 2016. Firstly, we enjoyed a brilliant 31st Anniversary Conference at University of York. With fantastic keynotes including Professors Andy Young and Alan Baddeley and a wonderful conference dinner and dance at The Hilton York, this was a truly memorable event. We were also joined by the BPS Trainee Conference for the first time: welcoming psychology trainees to share their experiences and work with the postgraduate community. Additionally, we continued to grow our social media presence and bursary applications, financially supporting more postgraduates with their studies than ever before.

We are currently very busy preparing for PsyPAG’s 32nd Annual Conference at Northumbria University on 26–28 July 2017. This is our yearly flagship event where approximately 150 delegates over the 3 days come together. Confirmed keynotes include health psychologist Dr Vincent Deary (Northumbria University) and evolutionary psychologist Dr Lynda Boothroyd (Durham University). As ever, we will also be hosting a range of social events, including a conference dinner at the beautiful Assembly Halls in Newcastle. I am pleased to announce that we will again be joined by the Trainee Conference. The conference is a fantastic opportunity to network with other postgraduates and present your work to a supportive audience.

Online conference registration and abstract submission is now open at our conference website: https://psypag2017.com/. Early bird registration rates close on Friday 25 March 2017 with registration closing on Friday 7 July 2017. The deadline for workshop applications for the conference is on Wednesday 29 March. Abstract submission closes on Wednesday 24 May. Make sure to put these dates in your diary! We look forward to receiving your submissions.

This year we are launching a new Award alongside our existing Award schemes. Our Undergraduate Award is designed to recognise outstanding research in an undergraduate level research dissertation and broaden awareness of PsyPAG for those eligible to transition to postgraduate study. Our existing postgraduate awards are Rising Researcher (for outstanding doctoral research), Masters and DART-P (outstanding teaching by a postgraduate). Full details on how to apply for all of our awards can be found on our website: http://www.psypag.co.uk/awards/. The deadline for all awards is Friday 17 March.

This year we will again be hosting a stand at the BPS Annual Conference, 3–5 May 2017 at the Hilton Metropole, Brighton. Please pop over and say hello and find out how PsyPAG can support you.

Would you like to organise a workshop to support postgraduates? Our Workshop application scheme is always open for new applications. Please see our website for more information: http://www.psypag.co.uk/workshops/. As ever, please also consider applying for our bursaries: a great way to supplement conference attendance, research funds etc. (http://www.psypag.co.uk/bursaries-2/).

As ever, thank you to the BPS Research Chair’s Column
Emma Norris
Emma Norris

Board for their continued support and the PsyPAG committee for their hard work and commitment to supporting UK psychology postgraduates. I look forward to meeting many of you at our Annual Conference in July!

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

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Discussion paper:
From anorexia to bigorexia: A discussion of current research and future directions in male eating disorders
Emma Kinnaird

There is a wealth of literature documenting the experience of eating disorders and body dissatisfaction in women, to the extent that scientific understandings of these illnesses are dominated by female experiences and concerns. However, a growing body of research attests to the qualitatively different types of body dissatisfaction experienced by men, who typically exhibit a desire to pursue a muscular ideal body type compared to the cultural female ideal of thinness. As a result, the traditional focus of this field on a female desire to be thinner means that men experiencing debilitating symptoms relating to the pursuit of muscularity do not resemble the diagnostic criteria normally ascribed to eating disorders, and so risk going undiagnosed. Therefore, it is likely that it is not enough to apply existing theories of body dissatisfaction and eating disorders to men: rather, an accurate conceptualisation of these illnesses requires an understanding of how they distinctly manifest in a cultural context of masculinity. A growing awareness of these specifically masculine body image concerns has led to the development of the ‘muscle dysmorphia’ diagnostic construct, also known as ‘reverse anorexia’ or ‘bigorexia’. However, despite recent advances in the field, body dissatisfaction psychopathology in men remains poorly understood. Research into muscle dysmorphia and eating disorders in men continues to suffer from a lack of conceptual clarity and methodological problems, particularly with regards to the relationship between the two illnesses. This discussion examines how muscle dysmorphia can provide a valuable insight into male experiences of eating disorders, suggesting that a better understanding of male body dissatisfaction psychopathologies requires combining aspects of these illnesses to form a more cohesive whole.

Male eating disorders
Eating disorders have traditionally been associated with the pursuit of thinness and weight loss, typically in young women. Whilst the prevalence of eating disorders in men appears to be rising, men with eating disorders continue to be overlooked both in diagnosis and treatment (Strother et al., 2012). A study by Eisenberg and colleagues (2011) found that whilst 3.6 per cent of undergraduate males in the study screened positively for eating disorders, none of these participants had received a diagnosis. Whilst male reluctance to seek help for mental health issues may be a factor in this under-diagnosis, evidence suggests that men with eating disorders are less likely to be recognised and diagnosed (Eisenberg et al., 2011). This may be in part due to increasing evidence that men with eating disorders often present with differing symptoms to females with eating disorders. In particular, the desire for a thinner body in men appears to be less common: instead, men are more likely to pursue a muscular body that reflects cultural masculine ideals (Brokhoff et al., 2012). Consequently, men diagnosed with anorexia nervosa are less likely to show a desire to lose weight and are more concerned with muscularity than their female counterparts.
From anorexia to bigorexia: A discussion of current research and future directions in male eating disorders

(Codesal et al., 2015). As a result of these gendered differences in symptom presentation, in particular the absence of a desire to lose weight, existing diagnostic tools developed using female populations lack reliability in diagnosing male eating disorders in a manner that likely enhances the problem of under-diagnosis (Darcy et al., 2012).

This difficulty in conceptualising and diagnosing male eating disorders is crucial because early diagnosis is vital to the successful treatment of eating disorders (Raeisaenen & Hunt, 2014). Consequently, it is important to understand the differences between male and female presentations of eating disorders, and for these differences to be reflected in accurate theories and diagnostic tools specifically orientated towards the male eating disorder population.

Muscle dysmorphia

Of particular relevance to this problem is evidence that male presentations of eating disorders appear to frequently incorporate aspects of a drive towards muscularity more typically associated with muscle dysmorphia (Stanford & Lemberg, 2012). A relatively new diagnosis, muscle dysmorphia is an illness characterised by the pathological pursuit of muscularity: the individual becomes preoccupied with not being muscular enough, a preoccupation which becomes manifested in behaviours such as over-exercising, disordered eating and steroid abuse (Pope et al., 1997). Throughout its conceptual history, muscle dysmorphia has been closely associated with eating disorders. Muscle dysmorphia was originally conceptualised as ‘reverse’ anorexia, the opposite of the drive towards thinness observed in the eating disorder anorexia nervosa (Pope et al., 1993). In this study, bodybuilders were found to exhibit symptoms of anorexia nervosa but in an opposite form, with a pathological drive towards a larger, more muscular body type rather than the typical core body image distortion of a drive towards weight loss and thinness (Pope et al., 1993). Despite these strong parallels, Pope et al. (1997) subsequently outlined criteria for a distinct disorder of ‘muscle dysmorphia’, rather than ‘reverse anorexia’. Crucially, this renaming also signalled a redefinition of the disorder: muscle dysmorphia was located as a subtype of body dysmorphia rather than an eating disorder. Pope et al.’s (1997) arguments for this conceptual shift were rooted in a perceived distinction between pathological eating and exercise behaviours: it was proposed that in eating disorders individuals are typically preoccupied with being too fat, and consequently develop central pathological eating disturbances with only secondary disturbances in exercise. By contrast, in muscle dysmorphia the core body image preoccupation is with gaining size and muscularity, manifesting in a primary focus on exercise and only secondary disturbances in eating behaviours (Pope et al., 1997). Consequently, muscle dysmorphia is currently conceptualised as a form of body dysmorphic disorder: where in body dysmorphic disorder the obsession is with the body, in muscle dysmorphia this becomes a specific obsession with a muscular body type (Leone et al., 2005).

Muscle dysmorphia as an eating disorder: Arguments for reclassification

Although Pope et al. (1997) ultimately defined muscle dysmorphia as a subtype of body dysmorphia, this diagnostic placement has been repeatedly questioned within a growing body of research advocating the exploration of muscle dysmorphia within an eating disorder framework (Murray et al., 2012). The arguments for this shift are twofold: Firstly, muscle dysmorphia poorly resembles body dysmorphia. Specifically, Chung (2001) notes that the diagnostic criteria proposed by Pope et al. (1997) specify that the body image disturbance must motivate disturbed eating and exercise behaviour, a presentation not generally included in the body dysmorphic model. Additionally, men with muscle dysmorphia typically exhibit higher levels of functional impairment and greater psychopathology
than those with body dysmorphic disorder, and in fact demonstrate similar levels to those with eating disorders (Murray et al., 2012).

Secondly, muscle dysmorphia bears marked similarities to the eating disorders, similarities embodied in the high levels of comorbidity between eating disorders and muscle dysmorphia found in Pope et al.’s (1993) early research. The two share highly similar symptom profiles. A comparison by Murray et al. (2012) of the symptomatic profiles of men diagnosed with either anorexia nervosa or muscle dysmorphia found significant associations between the two illnesses, with participants demonstrating widespread symptomatic similarities. Crucially, undermining Pope et al.’s (1997) arguments for reclassification, men with muscle dysmorphia exhibited equally severe disordered eating symptoms compared to those with anorexia nervosa. Where differences between the two groups were detected (such as heightened steroid abuse in males with muscle dysmorphia), Murray et al. (2012) suggested that these were consistent with the distinct body drives associated with the two illnesses, strongly recalling Pope et al’s (1997) original concept of ‘reverse anorexia’.

Murray et al.’s (2012) research strongly implies the efficacy of re-categorising muscle dysmorphia under an eating disorder framework, despite the departure from the traditional thin-driven conception of eating disorders. This movement away from a symptom-specific focus to a broader theoretical framework that can accommodate the atypical symptom variation embodied by male eating disorders resonates with a broader theoretical shift in the eating disorder literature. The study and treatment of eating disorders is now dominated by a transdiagnostic model which de-emphasises the importance of particular symptoms and behavioural manifestations, instead viewing these symptoms as the expressions of certain psychopathological processes (Fairburn et al., 2003). This distinction between symptoms and underlying processes is vital to establishing whether the atypical symptoms displayed by men are due to an eating disorder. The model suggests that eating disorders share a common underlying cognitive framework of an over-evaluation of shape, weight and eating which is then expressed in various symptoms. Four key psychopathological domains are identified contributing to this framework: Clinical perfectionism, low self-esteem, interpersonal difficulties and mood intolerance. In the model, sociocultural ideals become internalised as the individual begins to over-evaluate the importance of attaining this ‘perfect’ body; the exact nature of this sociocultural ideal is unspecified, meaning that this model could potentially accommodate the masculine muscular ideal associated with male body dissatisfaction. Compellingly, this model was found to predict muscle dysmorphia symptomatology in young men (Murray et al., 2013). Murray et al. (2013) demonstrated that perfectionism, low self-esteem and mood intolerance predicted muscle dysmorphia symptoms. In particular, self-orientated perfectionism demonstrated a consistent relationship to the features of functional impairment and appearance intolerance found in muscle dysmorphia. Although Murray et al. (2013) found no significant correlation between interpersonal problems and muscle dysmorphia symptomatology, previous findings that men with muscle dysmorphia exhibit greater interpersonal sensitivity (such as sensitivity to criticism and self-consciousness) recalls Fairburn et al.’s (2003) observation that individuals with eating disorders may be more sensitive to social interactions. This strongly suggests that, despite the symptomatic variation embodied by muscle dysmorphia compared to the more traditional conceptions of eating disorders, muscle dysmorphia has the potential to be classified as a type of eating disorder.

Evidence demonstrating that this eating disorder model can accurately predict muscle dysmorphia symptomatology is
crucial, as muscle dysmorphia has been criticised for its poor operationalisation and lack of clear definition (Suffolk et al., 2013). Muscle dysmorphia is variously defined as the pursuit of muscularity or the pursuit of lean muscularity (combining both a drive for muscularity and a desire for body fat loss that strongly recalls the drive for thinness). Suffolk et al. (2013) argue that the lack of clarity around what exactly is meant by muscle dysmorphia has led to methodological confusion in the existing research literature, with different researchers effectively investigating different conceptions of what muscle dysmorphia represents. Moreover, lean muscularity is also poorly defined with measures such as the Muscle Dysmorphic Disorder Inventory exhibiting an ambiguity in attempt to combine aspects of a drive for muscularity and a drive for thinness. As such, the development of a diagnostic tool, which reflects a wide range of body concerns rather than measuring only those relevant to muscle dysmorphia is important.

**Conclusion**
In conclusion, existing eating disorder diagnoses and the accompanying diagnostic tools do not accurately capture the male experience of body dissatisfaction. By contrast, muscle dysmorphia more accurately reflects male body image concerns and their related psychopathologies, but lacks definition and a strong theoretical background. Whilst these constructs in isolation exhibit fundamental weaknesses, the future of research in this area likely lies in combining their strengths. The high correlations between these two diagnoses in men suggests that combining these two disorders into one cohesive male eating disorder framework may more precisely capture the experience of male body dissatisfaction, enabling greater accuracy in diagnosis and treatment.

**Correspondence**
Emma Kinnaird  
MSc student, Glasgow University  
emkinnaird@gmail.com
References
Discussion paper:

A brief examination of maladapted visual processing mechanisms as an endophenotype of body image disturbance

Katie Groves

There is increasing evidence to suggest that body image disturbances, such as those experienced in eating disorders and body dysmorphic disorder, are associated with maladapted visual processing mechanisms. With insights from behaviour and cognitive neuroscience, this article will consider some of the evidence for visual processing deficits as a contributor to the underlying endophenotype of body image disturbance.

BODY IMAGE can be understood as an internal, mental representation that a person has of their bodily self, which affects cognition and emotion (Paillard, 1999). When these introspective perceptions do not reflect reality they manifest as body image distortions, which can be experienced to the point of delusion in some psychiatric conditions (Phillips et al., 1995). In particular, anorexia nervosa (AN), bulimia nervosa (BN) and body dysmorphic disorder (BDD) are characterised by perceived flaws in appearance that are often unnoticeable or considered to be minor by others (American Psychiatric Association, 2013).

Subtle differences in these conditions dictate that those with an eating disorder (ED), such as AN or BN, overemphasise the importance of body weight and shape, focusing on their own ‘fat’ and/or ‘ugly’ body parts but directing attention to others’ ‘beautiful’ body parts (Jansen et al., 2005). In contrast, those with BDD are concerned primarily with defects in appearance that are more likely to be related to the face or skin; although bodily concerns may also be present (APA, 2013).

The DSM-5 categorises AN and BN under ‘feeding and eating disorders’, whilst BDD is classified on the obsessive-compulsive spectrum (APA, 2013). However, comorbidity is common and as BDD and EDs share many clinical features, it is argued that these conditions might be better understood as inter-related body image disorders (Cororve & Gleaves, 2001). Severe psychological distress and reduced psychosocial functioning are common symptoms of EDs and BDD (Harris & Barraclough, 1997), with reports showing the highest mortality rate of all psychiatric illnesses in AN (Sullivan, 1995). It is therefore clear that identifying the underlying endophenotype (vulnerability traits) of body image disturbance is important and with symptoms rooted in the perception of appearance, research is beginning to investigate how the visual system might play a part.

It has been suggested that the preoccupations with specific body areas or flaws in appearance, associated with body image disturbances, might reflect a bias for processing local over global information (c.f. Lang, Lopez, Stahl, Tchanturia, & Treasure, 2014 for review). In line with this, weak central coherence (WCC) has been observed in AN and BN (Lang et al., 2014). This refers to a cognitive processing style that favours detail-based, local processing over processing global information or the ‘gist.’ Moreover, WCC has not only been shown across EDs but also in recovered ED participants (Lopez et al., 2009) suggesting that it is
a trait characteristic, rather than a state effect, of these disorders. WCC may therefore be a possible endophenotype that predisposes, or helps to maintain body image disturbance pathologies (Lopez et al., 2009). However, WCC in BDD is understudied which makes it difficult to clarify whether this is a stable characteristic of body image disturbance or a phenomenon reserved for EDs. Nonetheless, as ED and BDD symptoms are highly comorbid (Cororve & Gleaves, 2001) it is possible that a bias towards local processing might underpin the high level of attention-to-detail required for the development and maintenance of body image disturbances in both types of condition. Studies investigating face- and body-processing in populations with high body image concerns address this possibility (e.g. Mundy & Sadusky, 2014; Urgesi et al., 2014).

It is widely accepted that faces are processed in a configural manner, with research also showing that this might be the case for bodies (c.f. Minnebusch & Daum, 2009 for review). That is, for the visual system to process a body or a face, it is the perception of spatial relations among their features that is important. This holistic processing style is understood as distinct from the featural processing mechanisms employed for object-recognition, whereby a stimulus is perceived on the basis of its individual parts (Piepers & Robbins, 2012).

Some of the most robust evidence for these distinct processing mechanisms comes from studies of the ‘inversion effect’ (c.f. Rossion & Gauthier, 2002 for review). As the templates underpinning configural representations are based on canonical viewpoints, they are sensitive to changes in orientation. Consequently, it is argued that inverting bodies and faces disrupts the coordinates of the parts in space whilst preserving spatial relations. As such, successful perception requires a switch from configural encoding to feature-based analysis, which demands more processing resources and results in slower, and often less accurate, responses. Object recognition on the other hand, is typically unaffected by inversion since encoding is feature-based and therefore orientation-independent (Rossion & Gauthier, 2002). Accordingly, if body image distortions reflect a bias for local over global information, it is possible that corporeal stimuli are not processed in the typical configural manner but on the basis of their features. For this to be true, face- and body-processing in those with EDs and BDD should be less affected by inversion (e.g. Mundy & Sadusky, 2014; Urgesi et al., 2014).

Urgesi et al. (2014) investigated this using a matching-to-sample task whereby AN participants and healthy controls saw upright and inverted images of bodies, faces and motorcycles. Typical inversion effects were found for faces in both groups, but no inversion effects were seen for bodies in the AN group. This suggests that AN participants were processing bodies like objects, in a feature-based manner. Moreover, ANs showed a selective deficit for processing upright body stimuli, which were discriminated comparably to inverted bodies. These findings indicate impaired configural body processing in AN, perhaps favouring a more detail-based analysis of the human body that could explain obsessive bodily concerns. However, these results do not identify whether impaired configural body processing is specific to AN symptomology or related to body image distortions more generally. There is also no way to ascertain a causal relationship from the data, given that participants had been suffering from AN prior to the study.

Mundy and Sadusky (2014) moved towards answering these questions by presenting upright and inverted face, body and scene stimuli to participants with high and low body image concerns. Typical inversion effects were found for faces and bodies in both groups, although effects were weaker in those with high body image concerns. This was reflected by faster responses to inverted face and body stimuli, plus more accurate responses to inverted bodies in comparison to those with low body image concerns. This
A brief examination of maladapted visual processing mechanisms supports Urgesi et al. (2014) by also implying that the appearance-related scrutiny associated with body image concerns may be facilitated by feature-based processing mechanisms. However, although effects were stronger for bodies, unlike the AN participants in Urgesi et al.’s (2014) study, the high body image concern group showed configural processing impairment for both bodies and faces. This could be because although Mundy and Sadusky (2014) claim the results demonstrate maladaptive visual processing in populations ‘at risk’ of BDD, they do not explain how high body image concern alone, is indicative of BDD instead of an ED or comorbid conditions. It is thus possible that a myriad of latent body image disorders were assessed in their study, accounting for the difference in results. Alternatively, if visual processing maladaptations do precede clinical conditions as Mundy and Sadusky suggest, perhaps such deficits become more symptom-specific as a disorder develops. For example, those with body-focused concerns as in AN, may become more impaired at configural body processing, whereas those who focus on facial flaws could develop greater deficits in configural face processing. Given Urgesi et al. tested clinical AN participants and Mundy and Sadusky tested those ‘at risk’ of BDD, this might account for the slightly different findings. However, it seems there is currently no literature directly comparing face and body inversion effects in clinical ED and BDD participants, so further research is necessary in order to investigate this possibility. Furthermore, Mundy and Sadusky did not establish whether any of the participants were clinically diagnosed with an ED or BDD. Resultantly, it is unclear whether such visual processing deficits really do precede the development of a clinical disorder, or whether they are a result of increasingly intense focus on perceived flaws.

Neurological support for a local processing bias in AN and BDD was found by Li et al. (2015) in a matching-to-sample task whereby electroencephalography (EEG) recorded the brain’s response to low and high spatial frequency images of houses and faces. Event-related potentials (ERP), namely the P100 and N170, were analysed in response to all stimuli categories and compared between groups. The P100 component can be understood as the first positive deflection in visual ERP data. It is typically observed over occipito-parietal electrodes at around 100ms after stimulus onset and may reflect an early global response to faces (c.f. Minnebusch & Daum, 2009 for review). The N170 component on the other hand, is a well-documented indicator of face processing. It too occurs over occipito-parietal sites but is the first negative deflection after the P100, peaking at around 170ms post stimulus onset (c.f. Minnebusch & Daum, 2009 for review).

Li et al. (2015) found reduced P100 amplitudes and delayed N170 responses in AN participants irrespective of spatial frequency or stimulus category, and a similar trend was seen in BDD participants. Arguing that the components reflect early configural processing mechanisms, they suggest that the results imply enhanced detail-based processing and deficient configural processing in body image disturbance. ANs also displayed significantly reduced P100 amplitudes in comparison to BDDs, whilst their N170 amplitudes were significantly reduced in comparison to controls. It is argued that this is further evidence of abnormalities in early configural processing, possibly accounting for AN tendencies to fixate on ‘fat’ body parts at the expense of integrating the whole body. However, it is unclear why this would be the case for AN but not BDD participants, as fixation on perceived flaws is also symptomatic of this population. Nonetheless, an association between increased delusional beliefs and reduced face-selective N170 amplitudes was found in BDD participants. Li et al. propose that this represents maladapted or incomplete face processing in BDD, supporting Mundy and Sadusky (2014), which leads to perceptual distortions that underpin delusional beliefs about appearance. However,
this does not explain why constructing an incomplete representation of another person’s face would result in abnormal beliefs about your own appearance. Therefore, similar ERP investigations of own-face processing may be beneficial. In addition, Li et al. argue the results indicate a phenotype of body image disturbance, there are differences between AN and BDD ERP effects that mean the findings are less likely to be so clear-cut.

Nonetheless, as behavioural studies show that configural processing deficits associated with body image disturbances seem to be stronger for bodies, especially in AN, (Mundy & Sadusky, 2014; Urgesi et al., 2014) perhaps it is not surprising that Li et al. (2015) did not find evidence for local processing bias on the face-selective N170 in both groups. Thus, the neural correlates of appearance-related visual processing in body image disturbance may be better reflected in response to bodies. Future research should therefore consider including both body and face stimuli as this would help to establish whether the reduced configural processing seen for bodies and faces at a behavioural level, is also evident in neural responses. It may also offer an insight into whether biases are symptom-specific. For example, those with BDD might show aberrant early visual processing for faces whereas this might be reflected more for bodies in those with EDs. It may also be beneficial to include disorder-relevant stimuli appropriate for each individual, by assessing ‘problem’ areas in a similar way to Jansen et al. (2005).

This article has briefly considered some of the behavioural and neurological evidence for visual processing deficits in body image disturbance. There seems to be a consistent pattern indicative of enhanced local processing in BDD and EDs, which might underpin a feature-based processing approach to appearance-related stimuli. In turn, such biases may help to maintain or develop the perception of ‘flaws’ or ‘defects’ that perpetuate body image disturbances. However, there is limited insight into how, and if, such processes directly relate to visually perceiving the self and whether such biases precede the onset of illness. Furthermore, other than investigations of WCC (Lang et al., 2014) research into BN is sparse, so current understanding is limited. In sum, visual processing deficits seem to be a phenotype of body image disturbances. However, the aforementioned shortcomings need to be addressed before the identification of a visual processing endophenotype of body image disorders can truly be hailed.

Correspondence
Miss Katie Groves
PhD Student,
University of Essex
E-mail: kegrov@essex.ac.uk
A brief examination of maladapted visual processing mechanisms

References


Discussion paper:

Do we get by with a little help from our friends? Social drinking and risk-taking behaviour

Marianne Erskine-Shaw

The independent roles of social influence and alcohol consumption on risk-taking behaviour have been well researched within the psychological literature. However, the investigation of how all three of these variables interact is both diminutive and inconsistent. That is, there is no general consensus as to whether groups are beneficial or detrimental to alcohol-induced risk-taking. A review of the literature suggests that the relationship between these variables may not be straightforward, and thus a multifaceted approach with consideration of both individual differences and group characteristics may shed light on the complex relationship between social influence and alcohol-induced risk-taking. Subsequently, investigations could potentially identify effective strategies towards targeting sensible drinking in light of social contexts.

Alcohol consumption is an important part of society and its use is widely accepted (and sometimes expected) across many cultures and age groups (Heath, 2000). Nevertheless, alcohol consumption is one of the top five risk factors for disease, disability and mortality globally and the cost of alcohol consumption to England alone is estimated to be £21 billion per year (Health & Social Care Information Centre, 2014). Alcohol consumption can also lead to social and behavioural concerns, particularly binge drinking (consumption of large amounts of alcohol episodically), which is most likely to be associated with risky behaviours and subsequent harm such as drink driving, violent behaviour and sexual behaviours (Corte & Summers, 2005). This type of drinking behaviour is generally associated with social contexts, as it is largely highlighted in groups of young adults in the night-time economy (Substance Abuse & Mental Health Services Administration, 2014). Although this highlights the importance of research investigating the link between social influence and alcohol-induced risk-taking, there has been diminutive experimental research investigating the role of both social influences and alcohol consumption in risk-taking behaviour. Much of the literature focuses separately on either alcohol and risk-taking behaviour or social influences on risk-taking behaviour, with few notable exceptions incorporating all three of these variables (e.g., Abrams et al., 2006; Hopthrow, et al., 2014; Sayette et al., 2004; Sayette et al., 2012).

While the research literature surrounding the various amalgamations of these variables cannot ultimately offer a full holistic view of social influence on alcohol-induced risk-taking behaviour; it can however provide some insight into the mechanisms underpinning social influence. Further, reviewing the literature together may shed some light on the extent to which this influence and alcohol consumption collectively affect risk-taking behaviour, either positively or negatively. For example, much of the experimental research investigating alcohol and risk-taking behaviour is consistent in suggesting that alcohol consumption leads to an increase in risk-taking behaviour (Lane et al., 2004). In addition to this, social contexts – being with
Do we get by with a little help from our friends? Social drinking and risk-taking behaviour

others and group size – have been found to be associated with amplified levels of alcohol consumption (Cullum et al., 2012). Incorporating both of these research contributions, it would be reasonable to suggest that if social contexts increase alcohol consumption, this will result in an elevated increase in risk-taking behaviour. This explanation is in accordance with research findings by Lane et al. (2004), suggesting that the relationship between alcohol and risk-taking is linear; risk-taking behaviour increases in line with heightened levels of alcohol consumption.

Contrary to the role of alcohol, research investigating social influence on general risk-taking behaviour suggests that groups are beneficial when making decisions affirming that 'two heads are better than one' (Charness & Sutter, 2012). This denotes that better decisions regarding risks are made within groups due to the variety of contributions enhancing the likelihood of identifying a more favourable decision (Kerr & Tindale, 2004). This therefore suggests that social contexts may not necessarily elevate risk-taking behaviours, and alternatively, social situations may reduce a risky decision. Nevertheless, it is important to take into consideration that many alcohol-related risky behaviours are not preceded by a group discussion of the behaviour. Conversely, a factor of risk-taking associated with alcohol consumption (Henges & Marczinski, 2012): impulsivity is characterised by making unplanned and rapid choices or reactions (Potenza & de Wit, 2010). Furthermore, it is suggested that the role of groups on alcohol consumption is detrimental, as group size has found to be positively correlated with alcohol consumption (Cullum et al., 2012). In light of these various findings regarding social influence on risk-taking or alcohol consumption, it is reasonable to suggest that it is important to investigate these three factors together to examine the complex relationship between social influences and alcohol-induced risk-taking.

When reviewing the experimental research literature which incorporates all three variables (social influence, alcohol and risk-taking), it appears that not only is it diminutive, but it is also inconsistent. That is, research findings suggest under the influence of alcohol, groups are more likely to make a risky decision compared to when sober and when these decisions are made individually (Sayette et al., 2012). However, other research has found that group risk-taking is not affected (Abrams et al., 2006), or is even reduced (Hopthrow et al., 2014) when intoxicated. A review of this research may offer some insight as to why these inconsistencies appear within this area of research and elucidate the benefits/detriments of social influences on alcohol-induced risk-taking behaviour.

Research investigating group influence on alcohol-induced risk-taking
Experimental studies conducted by Sayette and colleagues (2004, 2012) suggest that risk-taking behaviour is increased in groups who have consumed alcohol. Sayette et al. (2004) separated unacquainted males into groups of three, with whom they consumed a placebo drink or a drink containing 0.82g/kg of alcohol. Following this, the groups were asked to make a collective decision to either complete 30 minutes of questionnaires, or to toss a coin (coin toss task) which would result in either a positive outcome (no questionnaires) or a negative outcome (60 minutes of questionnaires-completing). Findings indicated that the groups who consumed alcohol were significantly more likely to choose the coin toss (risky choice) (Sayette et al., 2004). However, such research does not consider how these risky decisions may differ between groups and individuals. An expansion of this study by Sayette et al. (2012) attempted to address this. Here, 720 (360 female) social drinkers were separated into groups of three, who consumed either a placebo, an alcoholic beverage (0.82g/kg for men, 0.74g/kg for women) or a control soft drink. Following beverage consumption (consistently done within groups) the coin toss task
was carried out. To assess individuals, in every fourth group, the individual members were separated to complete the coin toss in isolation. Results found that groups took the more risky decision compared to individuals, only when they believed they had consumed alcohol (alcohol or placebo beverage). These results indicate that groups do not influence risk-taking behaviour when group members are sober, thus suggesting that risk-taking behaviour is only impacted by intoxicated groups. Furthermore, when the risky choice was made in isolation, there were no differences in risk-taking between any of the beverage conditions. This finding highlights the importance of incorporating social context into alcohol research. An important factor to consider within this research study is that beverage consumption was always carried out within groups. As such, it could be argued that this is a measure of group decision-making, rather than group influence on alcohol-induced risk-taking behaviour, as the beverage consumption was still within a social context.

Research findings have not been unanimous in this area, however, as other research suggests that alcohol-induced risk-taking is not affected (Abrams et al., 2006) or decreases in groups (Hopthrow, et al., 2014). For instance, Abrams et al. (2006) investigated the effects of context (groups of four unacquainted peers or individuals) and beverage consumption (alcohol or placebo) on risk-taking, utilising a risk assessment task. Their findings suggested that individuals found risky choices more attractive following alcohol consumption, whereas the groups risk assessment did not differ between the two beverage conditions. These results therefore suggest that social contexts/groups may compensate for the effects of alcohol on subsequent risk-taking. Furthermore, Hopthrow et al. (2014) proposed that groups may reduce risk-taking behaviour following alcohol consumption. In a naturalistic study, they recruited participants from a university campus or music event and found that intoxicated individuals were less likely to take risks when they were within a group, as opposed to when they were alone. Specifically, they found that individual choice was more risky when they had consumed alcohol, and individuals generally made more risky choices than groups. Further, groups who had consumed alcohol made less risky decisions than groups who had not consumed alcohol. Interestingly, there was no context effect between the two environments, which could be due to both environments being characteristic of social drinking atmospheres. This therefore suggests that social contexts or drinking within a group may reduce risk-taking behaviour, and therefore groups may serve as a positive attribute in alcohol-induced risk-taking.

**Friends: Help or hindrance?**

In light of the research investigating group influences on alcohol-induced risk-taking, there appears to be no clear answer on the impact of social contexts. The research incorporating all variables; social influence, alcohol consumption and risk-taking behaviour, is not merely diminutive but also inconsistent. It could be suggested that rather than searching for a straightforward relationship, the relationship which needs to be investigated is that which is multifaceted. With this in mind, there are various possible factors that may contribute to risk-taking in social contexts following alcohol consumption, such as group characteristics, individual personality differences and affective mood.

In line with Tajfel and Turner’s (1986) Social Identity Theory, an individual’s behaviours and attitudes alter in order to correspond with their group’s identity. Consequently, it is reasonable to suggest that the impact of groups on individual behaviour will be dependent on what the individuals believe is desired or undesired by the group. Therefore, the saliency of this social identity may offer an explanation of the varied group influence on risk-taking behaviour due to the dependence on the group characteristics. Additionally, the Alcohol Myopia Model (AMM; Steele & Josephs, 1990) posits that
alcohol induces a myopic effect on attention, narrowing the focus of an intoxicated individual to the most salient and easy to process cues. This, therefore, impedes full evaluation of behavioural consequences that could subsequently result in risky behaviours. This together with the saliency of social identity may suggest that when consuming alcohol, an individual’s attention is narrowed towards the social context, such as the group they are with. Therefore, the consequence of subsequent behaviours will be evaluated in light of what the individual believes is desirable to the group, or would benefit the group. The role of the AMM in social contexts is supported by Hopthrow et al. (2007) who found that groups who had consumed alcohol concentrated on the immediate benefits of the group. However, to date this does not appear to have been supported in light of whether individual attentional bias towards groups following alcohol consumption impacts on individual risk-taking behaviour.

In consideration of individual differences, AMM suggests that attention allocation will differ between individuals as although attention may be drawn to social cues due to the saliency of social identity; ultimately, what appears to be most salient will differ between individuals. That is, alcohol will not narrow everyone’s attention towards a specific cue. Furthermore, AMM may also be affected by the individual’s mood/emotion, as attention could be allocated to the feeling of a specific emotion, providing that it is the most salient cue at that moment (Steele & Josephs, 1990). Many individual differences such as impulsivity and mood have been found to influence alcohol consumption behaviour, including risk-taking behaviour (Fox et al., 2010). It is therefore reasonable to suggest that many of these factors may mediate or moderate the role of social influence on alcohol-induced risk-taking behaviour, which could give some insight into the inconsistencies found within the research. Additionally, group decisions regarding risk may be influenced by individual differences: if risk-taking is influenced by personality characteristics, these same characteristics may influence individuals to voice their ideas more or be more persuasive within the group (e.g. Oreg & Sverdlik, 2013). The risk-taking decisions made in the group conditions within the above research studies have all denoted a group measure of risk-taking, rather than individual measures within the group setting.

Many of the factors discussed could impact the social influence on alcohol-induced risk-taking behaviour, and therefore it is necessary to move beyond the conceptualisation that there is a straightforward relationship between these variables. Consequently, it is important to adopt a multifaceted approach to investigate the topic, by incorporating group characteristics and individual differences. The research to date provides some great insight into this area of research and continuation of investigation into this field may uncover various factors involved in the complex process of group influence on alcohol-induced risk-taking. Subsequently, investigations could potentially identify effective strategies towards targeting sensible drinking in light of social contexts.

Correspondence
Marianne Erskine-Shaw
PhD Candidate,
Department of Psychology,
Edge Hill University
Email: erskinem@edgehill.ac.uk
Twitter: @marianne_eshaw
References
Research in Brief:

Introducing social vulnerability and compliance as factors for understanding offending in autism spectrum disorder

Katy-Louise Payne

Individuallys with Autism Spectrum Disorder (ASD) predominantly comply with the law, although a minority engage in offending behaviours resulting in the involvement of the Criminal Justice System (CJS). This research presents and investigates the role of social vulnerability and compliance as factors that may help to explain offending in ASD. It is hypothesised that heightened social vulnerability and compliance may increase the vulnerability of these individuals to be manipulated and exploited into committing offences by others. There is currently no research on social vulnerability or compliance in offenders with ASD. Preliminary findings indicate that individuals with ASD demonstrate increased social vulnerability and compliance on measures of these factors.

Introduction

The ASD offence profile

Most individuals with ASD are law-abiding citizens, although a minority engage in transgressions resulting in the involvement of the CJS. The prevalence of offending in ASD is not well established but has been estimated to be between 1.5–5.5 per cent (Robinson et al., 2012; Scragg & Shah, 1994). These findings do however have to be interpreted with caution due to a number of methodological limitations, including biased samples (e.g., studies conducted solely within hospital settings) and unmatched samples (e.g., no comparison to offenders without ASD). Despite the indication that some individuals with ASD do enter the CJS, there is a relative dearth of research on whether ASD specific factors may increase their vulnerability to commit crime. Research suggests that the minority of individuals with ASD who do commit crimes engage more frequently in crimes against the person (e.g., sexual offences, assault) and less frequently in property crimes (e.g., trespassing, arson) (Cheely et al., 2012; Kumagami & Matsuura, 2009).

An alternative suggestion to explain ASD offending

The National Autistic society ‘Careless’ campaign survey (2014) arose following the proposal of the Government’s new Care Act and concerns that individuals with ASD may not qualify for the support that they need. The ‘Careless’ campaign survey included 1344 individuals with ASD or carers of individuals with ASD. The survey reported that 37 per cent of respondents had been forced or manipulated to do something that they did not want to do by someone whom they considered to be a friend. This included criminal behaviours (National Autistic Society, 2014). The report suggests that individuals with ASD may not question the intentions or honesty of the individual attempting to manipulate them or, through a fear of displeasing them, may comply with the individual’s wishes despite the consequences (NAS, 2014).

There are many factors that may influence individuals with ASD to commit crimes, and be more susceptible to being manipulated into committing such offences. For
example, factors including social understanding deficits, empathy deficits, the pursuit of obsessional interests, failure to recognise the implications of behaviour and rigid adherence to rules have been suggested to be relevant in offending in ASD (Howlin, 1997; Lerner et al., 2012). However, to date no research has empirically tested whether individuals with ASD are more vulnerable to being manipulated or exploited into committing offending behaviours.

Social vulnerability refers to a concept defined as ‘an impaired ability to detect or avoid potentially harmful interpersonal interactions’ (Pinsker et al., 2006, p.110). Children with ASD have been found to be significantly more socially vulnerable than typically developing (TD) children. For example, they are reported to be more willing to comply with the requests of others (Sofronoff et al., 2011). Compliance refers to the propensity of an individual to acquiesce to propositions, requests or instructions, for some immediate instrumental gain (Gudjonsson, 1989). Gudjonsson (1989) reported that individuals who demonstrate a propensity towards compliance are more susceptible to manipulation and exploitation by others (Gudjonsson, 1989).

To date, however, social vulnerability has not been investigated in adults with ASD (neither offenders nor non-offenders) although research with children indicates potentially increased social vulnerability in this group (Sofronoff et al., 2011). Compliance research in adults with ASD is divided. For example, North et al. (2008) reported that individuals with ASD may be more compliant, however, findings by Maras and Bowler (2012) did not support this. One reason that these two studies yielded different results may be due to the different task formats: North et al., (2008) used the informant (other-reported) version of the Gudjonsson Compliance Scale, whereas Maras and Bowler (2012) used the self-report version. Individuals with ASD often have difficulties with language and communication which can make it difficult for them to express themselves which may result in difficulties with self-report measures (Helverschou et al., 2011). This may explain the difference between the two studies above.

Theory of Mind (ToM) refers to the attribution of mental states to oneself and to others (Premack & Woodruff, 1978). It has been suggested to underpin an individual’s ability to detect harmful intent (Sofronoff et al., 2011). ToM has been widely shown to be diminished in ASD (e.g. Joliffe & Baron-Cohen, 1999), which may suggest that individuals with ASD are increasingly vulnerable to manipulation and coercion into crime. Thus, it may be hypothesised when considering the factors of social vulnerability, compliance and ToM, that individuals with ASD may commit crimes with others (co-offending rather than solo-offending).

In summary, research suggests that individuals with ASD who offend may be less able to understand the intentions and mental states of other people. This deficit coupled with increased social vulnerability and heightened compliance may mean that individuals with ASD are increasingly vulnerable to manipulation or exploitation by others to commit crimes. I will now outline the preliminary results of a study that I am currently conducting as part of my doctoral research. The current study aims to examine the following research questions:

RQ1. Is offending alone (solo-offending) or with other people (co-offending) more common in individuals with ASD?

RQ2. Is solo or co-offending in ASD significantly associated with different offence types?

RQ3. Do social vulnerability, compliance, moral reasoning, ToM and social motivation influence the propensity of solo or co-offending in ASD?

Co-offending refers to when an offence is committed with another person, although this person does not have to be present at the time of the offence. Participants are asked within the solo/co-offending question-
Introducing social vulnerability and compliance as factors for understanding offending in ASD

Study design
The study involves four independent groups with 40 participants in each group. All participants are male. The groups are:
1. ASD offenders
2. ASD non-offenders
3. Typically developed offenders
4. Typically developed non-offenders

The sample size was calculated using GPower 3.1 to ensure a power value of 0.8.

Study measures
Participants initially complete the Wechsler Abbreviated Scale of Intelligence (Wechsler, 2011) before being asked to complete the following eight questionnaires:

1. Autism Quotient – 10 (Allison et al., 2012).
2. Social Vulnerability Scale (Pinsker et al., 2006).
3. Gudjonsson Compliance Scale (Gudjonsson, 1989).
5. Happé Strange Stories (Happé, 1994).
7. Solo/Co-offending Questionnaire.
8. History Questionnaire.

Questionnaires 1–8 are reported in the literature and are available at request either from the authors or associated publishers. The solo/co-offending and history questionnaires were specifically designed for this study as no suitable questionnaires currently exist.

The solo/co-offending questionnaire requests information about the crime that was committed, the sentence received and served, and whether the crime was committed alone or with others. If an individual indicates with others, it is queried whether someone asked or encouraged them to commit the crime before asking about the relationship with the other person involved.

The history questionnaire asks individuals to mark whether they have experienced or engaged in a number of behaviours that have previously been found to be associated with offending (e.g., substance/alcohol abuse).

Study methodology
Recruitment: To date participants have been recruited both online and offline within the South West of England, the Midlands, London and Wales. Participants with ASD have been recruited online via the Research Autism website. Offline recruitment for individuals with ASD has largely been via the National Autistic Society services, which includes social groups, services helping people with ASD into work and also supported living provisions. Participants who do not have ASD have been recruited offline and have come from homeless accommodation provisions and services helping individuals to access requirements for life including jobs, housing and benefits.

Conditions for testing: All participants have been tested within a quiet room away from interruptions and distractions. Many participants have been tested within the organisation from which they were recruited from, although some have been tested at the University of Bath. Rooms were selected on the basis that they provided the participants with confidentiality to prevent others overhearing any questions or responses.

Matching participants: In order to overcome the limitations of previous studies in this area, participants are recruited from a range of different services and geographical locations. All participants are matched on age and IQ, and the offender participants are also matched on their offence histories.

Progress thus far: To date 47 participants have been tested as detailed below:
- ASD offenders (N=7)
- ASD non-offenders (N=24)
- Typically developed offenders (N=5)
- Typically developed non-offenders (N=11)
Preliminary findings indicate increased social vulnerability and compliance in ASD compared to the typically developed non-offender group. There is also a moderate positive correlation between social vulnerability scores and compliance scores ($r=.53$) when both ASD and TD groups are included. This may indicate that as social vulnerability increases so does compliance or vice versa. It is however crucial to note that this is based on a sample of 47 participants out of the required 160 to achieve adequate power.

The implications of these findings could include the adaptation of risk assessments. This would enable the vulnerabilities of individuals with ASD to be identified and enable precautionary measures to be taken (e.g., increased monitoring, relocation to a vulnerable prisoner’s wing). Overall, this would improve safety and enable services to be adapted to the individual profiles of individuals with ASD if they enter the CJS.

**Correspondence**

**Katy-Louise Payne** (PhD student)
Department of Psychology, University of Bath
k.payne@bath.ac.uk
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Caffeinated energy drinks have become a cause for concern, with mainstream media accounts relating their usage to undesirable outcomes. My doctoral work aimed to investigate the efficacy of such claims by determining whether energy drink use predicts stress and mental health problems, disruptive behaviour, and low academic attainment. The research took a novel approach by investigating the use of these products both in isolation and in combination with other dietary variables (e.g., cola and chewing gum consumption, breakfast omission). The results suggest that energy drink use is associated with undesirable outcomes in young consumers, and that such relationships could be causal.

The research carried out for my PhD at the Centre for Occupational & Health Psychology, Cardiff University (see Richards, 2016) aimed to investigate whether energy drink consumption was associated with mental health, academic, and behavioural outcomes in adolescents and young adults. A literature review was initially carried out in order to determine what research has already been conducted that relates to energy drinks and mental health, and to help determine the direction for my own studies. Twelve case reports were identified, and links were made between extreme consumption and the onset/exacerbation of clinical symptoms, such as anxiety, paranoia, mania, and hyperactivity. Although the chronicity of these events was compelling, the review also examined empirical studies, as conclusions made from case reports alone may be limited. This analysis showed that short-term effects were sometimes positive (e.g., Wesnes et al., 2013), though long-term associations were not. In particular, frequent use was related...
Could energy drinks be a cause of mental health problems, low academic attainment, and disruptive behaviour?

To high levels of stress, anxiety, and depression (e.g., Hofmeister et al., 2010; Trapp et al., 2014). However, most studies carried out so far have been cross-sectional, meaning that they can only indicate whether variables are correlated at a specific time-point.Inferring from such studies whether energy drinks actually cause these problems is therefore not possible. It may be, for instance, that people who are already stressed, anxious, or depressed self-medicate (see Khatzian, 1997) by using energy drinks as a ‘pick-me-up’.

The use of energy drinks by children and adolescents is of particular interest because this group is associated with high consumption, and is sometimes a target for advertising campaigns. However, some schools that have banned the products have subsequently reported the emergence of undercover black markets (see Fletcher et al., 2014), suggesting that such measures are likely to be ineffective, and may even cause additional problems. In order to investigate the effects that energy drinks might have on young consumers, we first needed a way to measure their consumption. A 29-item Food Frequency Questionnaire (FFQ) entitled the ‘Diet and Behaviour Scale’ (DABS) was therefore created. The scale was mainly comprised of items that have previously been used in other FFQs, with the idea being that the measure could record both frequency and amount of intake for a number of foods and drinks that might affect psychological outcomes. An advantage of using such a measure was that it could be administered relatively easily to large groups of individuals. Furthermore, it allowed for correlations between dietary variables to be examined, meaning that energy drinks could be investigated in a novel way, not just in isolation but also in combination with other dietary variables with which their consumption may correlate. A further advantage of taking this approach was that additional dietary variance could be statistically controlled for, i.e., by adding the relevant covariates into the analyses along with the predictor variable. This was beneficial as it reduced the likelihood that the effects observed were better explained by the influence of these potentially confounding factors.

The DABS was initially tested in three relatively small-scale studies of students at Cardiff University. The first (N=268) examined associations between energy drink use, mental health and academic outcomes in a cross-section of first and second year undergraduate psychology students. Due to this sample consisting mainly of low consumers of caffeine and energy drinks, a second study (N=284) examined similar outcomes in a cross-section of university students who claimed to be frequent users of energy drinks. The third study (N=130) examined the effects longitudinally; first year undergraduate psychology students were administered the DABS during the first week of term, and were then followed up 10 weeks later. The findings from these three studies were not entirely consistent, with relatively few significant effects of diet being observed. The majority of these effects also disappeared once covariates had been controlled for. Nevertheless, when taken together, the findings did suggest that energy drinks might be associated with negative outcomes (i.e., low academic achievement, poor mental health) in this population, and particularly so when their usage occurred alongside certain other dietary behaviours (i.e., in combination with alcohol, and in relation to breakfast omission).

The studies described above all relied upon university students as participants, a group that is unlikely to be fully representative of the wider population. For instance, they may be more likely than average to achieve high academic attainment, and to come from socioeconomically advantaged backgrounds. The sample sizes were also only of moderate size, meaning that the analyses might have lacked the required statistical power to detect significant effects. Due to these observations, it was deemed worthwhile to conduct a much larger longitudinal examination of energy drinks, mental health, school performance, and problem behaviour in a sample of secondary school...
children from the South West of England. This project built upon the findings of a preliminary study (Millward, as cited in Smith, 2014), which had noted that children who frequently consumed energy drinks tended to behave more disruptively than children who did not, and that the effect appeared to occur independently of socio-economic factors.

Two thousand and thirty secondary school children were administered the DABS at baseline, 2307 completed it at six-month follow-up, and 1660 completed the study at both time-points. Demographic and school performance information was collected directly from the School Information Management System (SIMS). Before examining the effects of energy drinks, it was deemed useful to investigate potential confounding factors. Demographic and lifestyle covariates of mental health and school performance (e.g., sex, age, school and school year attended, presence/absence of special educational needs status, eligibility/ineligibility to receive school meals) were therefore identified. Analyses were then performed to determine whether energy drink consumption was associated with mental health and school performance outcomes at the cross-sectional level. Some findings of note were that high total weekly caffeine intake (i.e., the sum of that consumed from energy drinks, cola, coffee, and tea) was predictive of low general health, as well as high anxiety and depression. A combination of breakfast omission and frequent energy drink consumption, a dietary pattern of potential concern previously identified in the mainstream media (see Richardson, 2013), was also typically associated with undesirable outcomes.

Although factor analyses of the DABS in university students uncovered factor structures that varied considerably between studies, a reliable four-factor model was observed in secondary school students. This consisted of Junk Food, Caffeinated Soft Drinks/Gum, Healthy Foods, and Hot Caffeinated Beverages, and was identified in both cross-sections of data, as well as within each of the three schools individually. The factor of most interest to the current research was that labelled ‘Caffeinated Soft Drinks/Gum’, which was comprised of energy drinks, cola, and chewing gum. High consumption of this factor was typically associated with undesirable outcomes both cross-sectionally and longitudinally. However, on examination of its individual components, the strongest predictor was found to be a combination of high consumption of all three products, rather than any one in particular. It is therefore possible that this factor represents a dietary/behavioural pattern associated with undesirable outcomes, which may be akin to the ‘toxic jock’ identity (consisting of, amongst other things, sport-related identity, masculinity, and risk-taking) reported in US university students (see Miller, 2008).

A concern regarding energy drink use by children and adolescents is that it could negatively affect academic performance. Although few studies have investigated this phenomenon, those that have done so provide evidence that high consumption is related to low attainment (see for instance Champlin et al., 2016; Pettit & DeBarr, 2011). However, as with most of the studies relating to energy drinks and mental health, these accounts are cross-sectional, meaning that causation cannot be inferred. My PhD work has therefore aimed to build upon this earlier research by investigating such effects longitudinally. Although not without inconsistencies, the findings generally suggested that those who did not improve in English and maths attainment throughout the school year were more likely to have increased the frequency of their energy drink consumption during this time compared to those children whose grades had improved. This implies that children who increase their consumption of energy drinks are likely to be overtaken by those who do not. Coupled with the observation that frequency of energy drink usage was typically associated with school performance in a negative dose-dependent
manner at the cross-sectional level, these findings suggest that such relationships might have a causal basis.

Building upon the above idea, the question may be asked as to whether energy drinks can actually cause problem behaviour. Although little empirical evidence of this currently exists, a final study conducted for my PhD work demonstrated that children were more likely to have consumed an energy drink, and were less likely to have eaten breakfast, on a day in which they were given detention compared to a day in which they were not. It could be that energy drinks, lack of breakfast, and insufficient sleep all play a role in explaining this relationship. Perhaps children who stay up late playing video games or using social media consume energy drinks to stay awake, struggle to get to sleep, wake up too late to have breakfast before school, and then use further energy drinks to counter the effects of insufficient sleep, and also possibly as a replacement for their missed breakfast. Although such an account currently remains speculative, this maladaptive pattern might result in disruptive in-class behaviour, and henceforth, the occurrence of detentions. Indeed, my PhD research also uncovered that energy drink consumption and breakfast omission were associated with high occurrences of detentions throughout the school year, and that increasing in energy drink use and decreasing in breakfast consumption were both predictive of increases in the number of detentions received.

To summarise, results from my doctoral research suggest that energy drink use is associated with undesirable mental health, behavioural, and academic outcomes in young consumers. Although many of the effects observed were cross-sectional, a number of significant longitudinal findings were also made. Taken together with the observation that energy drink consumption in combination with breakfast omission was a significant predictor of the acute occurrence of detentions, these results imply that the relationships could be casual. However, until intervention studies have better determined the nature of the effects, a cautious approach to policy change may be required. The reason for this is that although many advocate banning adolescent use of energy drinks, doing so has been shown to create additional problems, such as the subsequent emergence of junk food black markets in secondary schools.

**Correspondence**

Dr Gareth Richards
Research Associate, Autism Research Centre, University of Cambridge
gvr22@medschl.cam.ac.uk
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Hints and Tips:

To Master or not to Master? Reflections on completing two Master’s degrees

Dr Jan Smith

Personal reflections and assisting others have characterised many of my experiences to date. As a postdoctoral researcher and current Health Psychologist in Training, I decided to reflect on my experiences of completing a MSc in Health Psychology and a MSc in Research Methods in Psychology in order to help and inspire others. I hope that reflecting on my journey will offer some pearls of wisdom for those considering MSc study.

Undergraduate studies

Obtaining a second class British Psychological Society (BPS) accredited undergraduate degree in BSc (Hons) Psychology with Clinical Psychology equipped me with Graduate Basis for Chartered Membership (GBC) and the first entry requirement essential to becoming a Chartered Psychologist. During my undergraduate degree, supervision from a Professor of Health Psychology and undertaking specialist modules in health psychology and clinical psychology inspired me to pursue a career as a Chartered Psychologist.

From early experiences of living within deprived localities, I viewed degrees with professional accreditation as cost effective gateways to psychology careers. With limited funds and interests in postgraduate training in health psychology and clinical psychology, I pursued two MSc courses which provided BPS accreditation or accreditation with the Economic Social Research Council (ESRC). I tenaciously searched for MSc courses that matched my interests in health psychology and clinical psychology, and that allowed me to obtain relevant experience to enhance employment prospects while supporting my journey towards becoming a Chartered Psychologist.

MSc in Health Psychology

The BPS accredited MSc in Health Psychology represents the first stage of training to becoming a Chartered Health Psychologist and perfectly matched my interests in health psychology and clinical psychology. In my application form, I emphasised attainment of over 70 per cent or first class awards in almost all of my health psychology and clinical psychology undergraduate modules. I also highlighted my knowledge of health psychology models and reflected on supervision from Health Psychologists. This resulted in several unconditional offers.

During my undergraduate degree, interaction with Chartered Psychologists emphasised the importance of relevant experience while obtaining consistently high academic marks. Obtaining relevant experience enables unique insights into applying psychological principles in practice along with learning and reflection opportunities. MSc courses with placements offer advantages in equipping candidates with this important experience. However, while I did not choose a MSc with a placement component, I did select the BPS accredited part-time MSc in Health Psychology course at the University of Westminster. This involved tuition every Monday and Tuesday evening for two years, and therefore allowed me to work as an Assistant Psychologist and Research Assistant in two mental health services run by the National Health Service (NHS). As an Assistant Psychologist, co-facilitating recovery groups alongside a
Clinical Psychologist enabled insights into views of mental health within multidisciplinary NHS teams, Cognitive Behavioural Therapy formulations around anxiety and recovery, experiences of conducting clinical interviews and submitting articles for publication. As a Research Assistant, leading service evaluation research of a NHS Home Treatment service involved critically appraising research to explore experiences from clients, carers and staff. Graduate psychology positions are highly competitive, with many people applying for a single job. It is therefore important to be creative, innovative and courageous in seeking positions. Directly contacting Clinical Psychologists by letter or email and networking with nearby Psychologists helped me secure employment positions, supervision and co-authorship of publications.

Master’s degrees require enhanced independent learning, commitment, hard work and individual ownership of academic performance. Performing well requires detailed evaluative and critical thinking skills, independent study beyond core reading material, strong organisational skills along with concise, clear and eloquent communication skills. Utilising the British Library enabled access to almost any article or book, therefore bypassing barriers of my university not having access to selected journals and materials. I found the independence of postgraduate study, encouragement to navigate subjects and occasionally develop my own essay questions incredibly rewarding. Overall, my MSc in Health Psychology equipped me with numerous skills and networking opportunities, all within a nurturing, stimulating and encouraging environment. During my MSc in Health Psychology, I was struck by the friendly, approachable and knowledgeable nature of the Health Psychologists who provided me with positive inspirational role models. Engaging in discussions with Lecturers in health psychology provided invaluable learning opportunities into the skills and work undertaken by Health Psychologists. Obtaining tuition from the authors of health psychology undergraduate textbooks was an awe-inspiring privilege that evoked curiosity and insights into the skills of conveying psychological concepts in comprehensible and engaging ways. In hindsight, attending psychology conferences and securing bursaries such as those offered by PsyPAG, may have enabled further networking opportunities.

**Next steps**

During the final stages of my first MSc, by obtaining distinctions in research methods modules, I became interested in research and perhaps acquired strengthened self-efficacy in being able to complete goals. However, I felt daunted and intimidated by the idea of doing a PhD. The plethora of career options, conflicting advice surrounded by a sea of pessimism and doubt bore down on my soaring aspirations like a dragging anchor scraping the sea floor.

As my peers pursued careers in clinical psychology, cognitive behavioural therapy, and teaching, I felt alone in my quest for further study in research. I was struck by a sense of loneliness in pursuing a research career path that seemed so unattainable among my peers. However, I was aware of the gaps in my understanding of complex research methods and decided to tackle my dwindling confidence in research methods with tenacious gumption. Rather than feeling like an outsider and dissimilar from my peers, I tried to think positively which enabled me to feel proud and courageous in taking tentative steps into the murky depths of the unknown. The encouragement and support I received from close friends enhanced my understanding of the importance of social support and highlighted how choice making enhanced my wellbeing, self-worth, power and identity.

**MSc in Research Methods in Psychology**

When considering an MSc in Research Methods in Psychology, I selected universities within close proximity to peers and courses that provided ESRC accreditation to enhance my eligibility for ESRC PhD scholarships. I secured two unconditional offers and selected the full-time ESRC accredited MSc in Research Methods in Psychology at University College London (UCL). I
supported myself financially from a career development loan and personal savings.

At UCL, I was struck by comments on pursuing a second MSc which seemingly evoked surprise, suspicion and questions on identity. However, I enjoyed learning alongside people with shared interests in psychology. Unlike my first MSc, daily lectures, frequent deadlines and sophisticated research methods training required formidable organisational skills and stress management. I found modules and assignments in non-parametric statistics, qualitative analysis, computer programming and specialist modules in comparative and clinical psychology particularly fascinating. Conducting individual and group research projects enhanced my team working skills and resulted in being second author on a peer reviewed publication.

Alongside my studies, I approached local Clinical Psychologists and worked as an Assistant Psychologist for one day a week. This involved conducting psychological assessments from recordings of NHS psychodynamic sessions for depression, which enhanced critical reflective thinking while making informed judgements, often from incomplete accounts.

Towards the end of my second MSc, I applied for a competitive ESRC PhD studentship at the University of Kent, focusing on service quality and quality of life outcomes for adults with learning disabilities and older people living in care homes. I was excited to have been awarded this PhD studentship and started my PhD immediately after completing my second MSc.

**Figure 1: A flow diagram of my training and career progression.**

<table>
<thead>
<tr>
<th>UNDERGRADUATE TRAINING</th>
<th>POSTGRADUATE TRAINING (Masters)</th>
<th>POSTGRADUATE TRAINING (Doctoral and professional)</th>
<th>FUTURE CAREER DESTINATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSc (Hons) in Psychology with Clinical Psychology</td>
<td>MSc in Health Psychology (BPS accredited, Stage 1 of Health Psychology training)</td>
<td>MSc in Research Methods in Psychology (ESRC +1 accredited)</td>
<td>Health Psychologist</td>
</tr>
<tr>
<td>Graduate Basis for Chartered Membership, BPS accredited</td>
<td></td>
<td></td>
<td>HCPC registered, full membership with DHP</td>
</tr>
<tr>
<td></td>
<td>Postgraduate Certificate in Clinical Applications in Psychology</td>
<td>Stage 2 training in Health Psychology (BPS accredited) (Current training)</td>
<td>Academia, Research and Teaching in Psychology Chartered Membership of BPS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Doctor of Philosophy (PhD) in Community Care (ESRC +3 CASE PhD studentship)</td>
<td></td>
</tr>
</tbody>
</table>

Note. BSc (Hons) = Bachelor of Science with Honours; BPS = British Psychological Society; ESRC = Economic Social Research Council; HCPC = Health Care and Professionals Council; DHP = Division of Health Psychology
Reflections
Over the past decade, as shown in Figure 1, I applied my interests in health psychology, research and mental health by undertaking several psychology university courses.

As a postdoc, I perceive my undergraduate and masters training as evidence of how hard work and dedication can pay off!

Benefits of multiple MSc study
Both of my accredited MScs provided me with intellectual reward, which enabled me to pursue my interests in health psychology and research. Both my MScs represented stepping stones to further specialisation and career options. Obtaining a Merit in my BPS accredited MSc in Health Psychology equipped me with Stage 1, and eligibility to begin Stage 2, in qualifying as a Chartered Health Psychologist. Moreover, completing an ESRC accredited MSc in Research Methods in Psychology enabled me to apply for competitive three year ESRC funded PhD studentships. The detailed knowledge and specialist skills acquired from my MScs provided an excellent foundation for my PhD and current professional health psychology training.

Having both MScs enables me to apply for a broader range of psychology graduate jobs specialising in either health psychology or research. Within times of austerity, budget cuts and small numbers of psychology graduate positions, I believe my MScs enhanced my employability by enabling me to stand out from the crowd, while opening doors to careers in different areas of psychology.

As both my MScs included combinations of taught modules, coursework and research dissertations, these experiences allowed me to work autonomously and enhanced skills in organisation, communication, time management, and project management. I also believe obtaining both MScs demonstrated my determination, tenacity and the ability to develop high-level knowledge. By working alongside both of my MScs as an Assistant Psychologist or Research Assistant, this enabled me to apply psychological theoretical frameworks to practice and to obtain experience within applied psychology settings alongside a wide range of people with numerous clinical presentations and Chartered Psychologists.

I also learnt how success represents changeable and fluid concepts, unique to individuals’ abilities, preferences and backgrounds. Revisiting and reflecting on my MScs may also provide me with a comforting sense of belonging, achievement and guided discovery.

Challenges of multiple MSc study
At the beginning of each MSc, I experienced both apprehension and excitement, which may have provided me with comforting familiarity within unpredictable times. Being able to manage self-doubt and ‘imposter syndrome’ of feeling inadequate despite my accomplishments reflects ongoing concerns, which I attempt to address by thinking positively and recognising achievements.

Financing both of my MScs with support from a career development loan and part-time psychology jobs reflected considerable challenges. With increasing postgraduate fees and within times of austerity, I’m hoping more can be done to ensure the psychology profession becomes accessible to people from varied backgrounds, including people from deprived groups.

By managing multiple roles, I strive to reframe challenging events into learning prospects to reduce stressful situations. Utilising mindfulness, thinking positively, setting boundaries, obtaining regular supervision and socialising with peers has helped maintain self-care and reduce burnout. Moreover, my career may benefit from integrating mindfulness into my daily routine, by experiencing each moment and setting realistic rather than overly ambitious goals. I’ve also learnt to preserve self-care and alleviate stress and anxiety, by practicing acceptance, diminishing pursuits of perfection and conducting daily enjoyable activities outside of work and study.

In hindsight, although I feel privileged
to have encountered many exciting multifaceted roles, my professional development could have benefited by writing an ongoing reflective diary. A reflective diary would highlight professional and personal development and assist in answering reflective questions on ‘what have you learnt’ within interviews, applications and assignments.

**Conclusion**

Despite numerous challenges, I feel proud of obtaining competitive positions and applying dedication and determination to accomplish my goals. Being able to access funding from savings, bank loans, and competitive postgraduate psychology jobs, enabled me to explore my interests in psychology. While juggling a professional and personal life reflects ongoing challenges, I look forward to exploring my interests in health psychology, research and mental health as a postdoctoral researcher and future Chartered Psychologist.

**Dr Jan Smith**  
BSc (Hons), MSc, MSc, PGCert, PhD  
Health Psychologist in Training  
NHS Greater Glasgow and Clyde  
Email: drjansmith@hotmail.com
Hints and Tips:

Healthy body and mind: Tips for postgraduate students chained to their desk
Beth Armstrong

Do you spend days chained to your desk without being productive, find it hard to squeeze exercise in to your day or live off chocolate bars and coffee? I have found myself doing all of these, and it was turning into a habit. To kick-start a healthier and more productive routine I asked Mindfulness blogger, Jen Mak who ‘geeks over being productive’ and personal trainer, Eddie Pike to provide some tips on how we can ‘eat, sleep, research, repeat’ while staying happy, healthy, productive and sane(ish).

Doing a PhD is amazing, but it can have pitfalls too. As postgraduates we spend most of our days hunched at our desks in dimly lit rooms, hunting for that next moment of theoretical enlightenment or significant result. We often forego the lunchtime stroll (which we know we should be taking!) for the chance to run one more analysis in SPSS. We consume copious amounts of caffeine to motivate ourselves and nutrition is left to the mercy of the student union canteen. Days can be spent working hard (without actually getting anything done) and battling the unconquerable succubus, procrastination.

Jen has provided advice on how to overcome a few hurdles that many postgraduate students face: procrastination; motivation; organisation; isolation; and disappointment.

Procrastination
The roots of procrastination can differ. Sometimes procrastination is due to boredom, which could signal fatigue and the need to take a good break. It may be that you really do not enjoy what you are doing, in which case you need to be honest with yourself and consider what needs changing. Perhaps you feel de-motivated because you feel out of your depth and not doing anything is better than doing it and failing. You can’t fail if you do not try, right? Be kind to yourself. You were awarded a place on your course and others see the potential in you. You cannot fail if you keep turning up and keep trying.

Motivation
Consider what your intrinsic motivation is. Are you here because you are curious or to gain mastery in your area? When you know why you are here, write it down, tell your cheerleaders and ask them to keep you going when you are feeling low. It is normal to feel fatigued during this journey, just step away and return refreshed.

Willpower and decision-making are limited resources that tend to deplete as the day goes on. If you always rely on willpower to get things done, you will never get everything done. You have to form habits, a routine, even a default routine that is flexible to change. For example, get into the habit of doing the tricky tasks in the morning, such as rewriting a messy chapter, this way you are less likely to put them off until the next day.

With any long-term project, you need to break it down into manageable, perceivable chunks. A year away is too far in the distance to instill any sense of urgency but if you think in one or three month blocks, you can see those goal posts coming closer. Work out a plan for the next few years; consider what needs to be done before each and every step and give yourself some buffer time and some breaks. You need breaks regularly and deserve them.
Organisation
Organisation relates to motivation. Try to understand when you are more likely to be productive, and organise your week to maximise this. Good organisation allows you to make the most of your productive periods. For example, if you get most writing done during the morning then plan to be at your desk writing in the morning, and arrange other activities such as supervisor meetings or answering emails in the afternoon, when you are less productive. Figure out whether you need external pressure to motivate yourself, like an impending deadline, or whether you prefer to have time to plan and consider the next steps. If you need pressure, ask your supervisor to give you shorter deadlines to help you stay on track. Failing that, ask your friends to nudge you and threaten to take away your pleasures (for example, ‘We are changing your Netflix password.’).

Isolation
When you are so deep into the work that you do, it can feel like no one understands you. We are social animals and need physical and mental interaction with other people. Be sure to see or speak to friends at least every two days. Join clubs/societies to take a break and get out of your head. Most of the ticking happens unconsciously anyway and creativity does not come from sitting in your office all day. Yes, you are a PhD student, but it is not the only thing. Get out there and enjoy the rest of your life too.

Disappointment
Whether it is a study not working out or rejection of an article, we all experience disappointment. Rejection stings but if you do not put yourself out there, do not expect much back. The more you keep applying, the more likely you will get the opportunities you seek. If you do get rejected, find out why by asking for feedback. Remember that no does not mean no forever. Instead of feeling dejected, reflect and consider what you could do differently. Speak to people you respect and ask for their support and guidance. Try to cultivate a growth mindset, learn from every opportunity, and be open to collaboration, sharing tips and advice. Remember that there is always an element of luck so be prepared to grab an opportunity when it does come along.

Healthy(ish) body…
I hate to admit it, but I can sometimes spend days in my house, rarely leaving my desk. I was recently given an activity tracker…the results were not shocking but rather disconcerting. On ‘work days’ I did around 1000 steps, well below the recommended target of 10,000 per day (NHS, 2014). According to the Department of Health, my sedentary lifestyle is a ‘silent killer’ (Owens et al., 2004) which an occasional run around the local park does not counteract. We know that exercise offers a host of health benefits (NHS, 2014) including improved cognitive functioning (Ardoy et al., 2014), and who does not want that?!

I decided that I needed a quick and easy routine which I could do on ‘work days’. I asked Eddie Pike to put together a workout that can be done in the office, without getting changed, going to the gym, or using special equipment – it is a workout you can do while you are waiting for your regression models to run, pondering an interesting result or if you just need a break from your laptop.

Office workout
Firstly, try and warm up a bit – go for a walk around the office for five minutes, get some water, go to the toilet, or go up and down stairs. Anything that will get you moving.

Next, try these exercises:
1. Ensure your chair is not on wheels.
2. Maintain good posture throughout. Feet flat on the floor to provide a good base. Pull the tummy in towards the spine and tighten the stomach muscles, tighten the muscles in your bottom as well. You should not strain to do these exercises and should be able to breathe normally.

1. Chair Squats: Stand about 6 inches in front of your chair. Without allowing the
knees to go in front of your toes, push your bottom out and squat down until your bottom touches the chair, then return to standing. Repeat 20 times.

2. **Chest squeezes**: Sit up tall in your chair. Put your palms together in front of you and push them together as hard as you can for 2 seconds, relax and repeat. Repeat 20 times.

3. **Crisscross arms**: Sit up tall in your chair. Cross your arms in front of your face and then swing them to a wide open position. Alternate right arm on top, right arm underneath. Repeat 20 times.

4. **Leg extensions**: Sit towards the front of your chair with good posture, place both feet flat on the floor and then alternately raise each leg until it is parallel with the floor. Repeat 20 times with each leg.

5. **Triceps dips**: Place both hands, facing forward, on the front edge of your chair. Ease your body off of the chair and lower your bottom down towards the ground. Try and get your elbows at 90 degrees and then push back up. Repeat 10–15 times.

6. **High knee pull-ins**: Sit with good posture and grasp the outside edges of your chair. Lift the knees towards the chest, extend the legs forward and then bring the knees in again. Repeat 10–15 times.

7. **Oblique bends**: Sit forward on your chair, with good posture. Place your hands behind your head, elbows out to the side. Bend slowly down to the left as far as you can, and then to the right. Repeat 20 times each side.

8. **Calf raise**: Stand next to a desk or chair which you can use to support yourself. Slowly raise up onto your toes, pause for a second at the top and then slowly lower back down. Repeat 20 times.

If you have time you can repeat the above. After that you need to stretch; this will help to recover from the exercises and stretch muscles which get stiff from sitting and not moving. All stretching should be performed slowly and gently with the focus on good posture and breathing.

1. **Neck stretch**: Slowly lower the chin to the chest, hold for 15 seconds, and take the chin back up. Tilt your head towards the left shoulder, hold for 15 seconds. Repeat toward your right shoulder.

2. **Shoulder stretch**: Take one arm across the chest, keeping it level with the shoulder. Use the hand of the opposite arm to gently pull it in towards the chest, holding the stretch for 15 seconds. Repeat with the other arm.

3. **Back and leg stretch**: From a standing position, slowly lean forwards, taking your chest towards the legs, stopping when you have to bend the legs. Maintain the position for 15–20 seconds. Do not bounce or try to push the stretch further than mentioned.

4. **Thigh stretch**: Stand using a chair or desk as support. Lift one foot behind you and hold the ankle. Keeping your knees together push your hips forward until you feel a stretch at the front of your leg. Hold for 20 seconds. Repeat with the other leg.

5. **Calf stretch**: Stand facing a wall. Place the hands on the wall, bend the right leg and extend the left leg behind you. Push the heel of the rear leg to the floor and feel the stretch in your calf muscle. Hold for 15 seconds. Repeat with the other leg.

6. **Wrist stretch**: Hold the arm out in front of you with the palm down. With the other hand gently pull the fingers down, hold for three seconds. Then gently pull the fingers up towards the ceiling, hold for three seconds. Repeat this three times. Repeat with the other hand.

**Snacking**: Sitting at a desk for long hours can be monotonous and often leads to frequent snacking. Many would say that snacking is bad. The truth is that unhealthy snacking is bad; healthy snacking is good. It can help maintain your energy levels. Try and have some pieces of fruit and some nuts available. Find a recipe for a healthy flapjack – a great and filling snack which is easy to make at home.
Healthy body and mind: Tips for postgraduate students chained to their desk

Correspondence
Beth Armstrong,
PhD student, Psychology Department,
Lancaster University
b.armstrong1@lancaster.ac.uk

You can find more tips from the article contributors below:

Jen Mak:
https://medium.com/@jenmak85/
https://twitter.com/jenmak85

Eddie Pike:
http://www.lancaster.ac.uk/sport/sports-centre/trainers/eddie-pike/

References


Discussion paper:
The role of embodiment in third wave mindfulness based cognitive therapies
Rebecca Aloneftis

Third wave mindfulness based cognitive therapies (MBT), despite their widespread use, have been slow to produce an evidence base as wide and as strong as that generated by traditional second wave CBT therapies. The increasing demand for evidence based interventions, necessitates the need for MBTs to draw upon evidence from other disciplines and fine tune research to look at specific aspects of mindfulness such as embodiment, to strengthen the evidence base for these therapies.

‘EMBODIMENT’ is not a theory per se, but a philosophy originating from Merleau Ponty’s phenomenology. According to this philosophy, embodiment is the experience of living in the world through our bodies. Contrary to this is the notion of Cartesian dualism; a view of the mind and body as two separate entities. An emergent view in recent years is that health and illness can be understood using embodied approaches. In addition, psychopathology has been linked to a perceived separation of mind and body (Caplan et al., 2013). It is not easy to define the term embodiment as there is no universally agreed definition. Nevertheless for mindfulness practice, the experience of being embodied, involves paying attention to the body.

In the last decade or so, mindful therapies originating from meditative practice, have permeated the Cognitive Behavioural Therapy (CBT) approach and have come to be known as third wave CBT therapies. Some of these, also known as mindfulness-based interventions (MBIs) include: Mindfulness based Cognitive Therapy (Teasdale et al., 2014), Acceptance and Commitment Therapy (Hayes et al., 2012), Dialectical Behaviour Therapy (Linehan, 1993) and Compassion Focused Therapy (Tirch, 2012).

There is controversy around the widespread use of MBIs, as the evidence base of their effectiveness is not as extensive as that for traditional CBT therapies, raising questions as to whether such therapies add any value to traditional models (Bass et al., 2014). The problem in generating this evidence is partly due to the huge variability in the way that mindfulness therapies are practiced (Caplan et al., 2013). Furthermore, it is difficult to determine precisely which elements of mindfulness may be implicated in the process of change, whether it is body awareness, attention regulation, emotion regulation or veridical perception (the extent to which our internal representation of the world reflects the external world). Therefore, conducting a review of third wave CBT therapies poses challenges due to the different methodologies and philosophies that they employ. It may be useful moving forward to research aspects that mindfulness interventions share in common, such as embodiment. A consideration is made here, as to whether the emerging significance of the phenomenon of ‘embodiment’, should be given more emphasis in the research and practice of MBIs. There is a lot to be learnt from other disciplines in this area including somatic psychotherapy, psychological theories of trauma (Porges & Furman, 2011) and recent evidence from neuroscience. It is to this evidence that we now turn.

Strong epigenetic evidence is emerging in support of the connection between the mind and body in health and illness.
The role of embodiment in third wave mindfulness based cognitive therapies (Paulson et al., 2013). Health neuroscience is a new field that is primarily concerned with the interplay between mind and body and how the brain, for example, is linked to physical health including vulnerability/resilience against illness. Evidence from neuroscience illustrates that the growth of new neurons (neuroplasticity) is a life-long process, offering a good rationale for the use of mindfulness, which has been associated with producing lasting changes in the brain (Paulson et al., 2013).

The field of neuroscience studies the effect that particular aspects of mindful practice have on the brain. In embodiment, for example, ‘somatic focus’ is translated into neurophysiological terms – ‘top-down alpha rhythm modulation’. Alpha rhythm is a pattern of electrical oscillations as measured by an electroencephalograph in a resting state. Neuroimaging techniques are thus used to investigate the impact that focusing on the body has on the brain. Kerr et al. (2013) illustrate a computational model to show that mindfulness does indeed start with the body. The model hypothesises that top-down processing increases control by detecting when the mind wanders from a somatic focus, leading to enhanced cognitive regulation and metacognition. These findings suggest that mindfulness, through enhanced top-down processing in the sensory cortex, may have a positive effect on distress. It is a first step towards strengthening evidence for the use of mindfulness techniques that place a focus on somatosensory cues (for example, body-scan, breath focus exercises, mindful yoga, and mindful walking).

There are a number of challenges in using evidence from neuroscience to inform research and practice. Partly due to methodological issues but also because their use, despite technological advances in the field, is controversial. Use of cortical magnetoencephalography measures are not infallible, as not all anatomical parts are easily accessed by this technique (Kerr et al., 2013). It is not clear how respiratory sinus arrhythmia and heart rate variability, measured by modern neuroimaging techniques, are accurate indicators of how the brain processes emotional stimuli. Furthermore, evidence produced by neuroscience is correlational and does not imply causation. Changes in brain activation may be correlated with a reduction in symptoms, however this does not imply the mechanisms/process of change at a neuro-anatomical level. There also appears to be a tendency for researchers to take a reductionist stance by selecting research from the neuro-scientific literature that supports their theory without acknowledging conflicting views. Particularly as evidence in neuroscience is as fragmented and contradictory as that in the field of psychology. Neuroscientific findings therefore should not and do not aim to provide a complete, undisputed account of human experiences, but highlight an aspect of this, that may be of use in capturing the essence of embodiment for MBIs and add a richness to the available knowledge base. We need to be careful when generating hypotheses about how feelings are generated from mental structures via brain imaging methods. Research from the discipline of neuroscience is in its infancy, and the mechanisms of change in mind-brain-body have not yet been determined, nor has our understanding of their connection become any clearer (Paulson et al., 2013).

An abundance of relevant evidence on the link between mind and body can be found in the psychological treatment of trauma, such as Porges polyvagal theory (2011). The vagus nerve has been found to have a crucial role in the regulation of breathing and specifically in the regulation of the sympathetic and parasympathetic autonomic nervous systems. Polyvagal theory describes the effects of relaxation from breathing exercises via interneurons and the release of neuropeptides (oxytocin). It attempts to explain the effects of mindfulness breathing on regulating activation in the amygdala, and provides some evidence of the beneficial effects of the use of MBIs on wellbeing (Porges & Furman, 2011). Decrease of the
physical symptoms of distress is achieved through the use of mindfulness exercises, believed to balance sympathetic and parasympathetic bodily responses by focusing attention on breathing and the body (Kabat-Zinn, 2003). Porges argues that there are few opportunities in therapy that improve the regulation of physiological states leading to improved functioning and perhaps this is something we can focus on more. It is also useful to educate clients about the regulation of physiological states, to aid them to better understand the usefulness of practising mindfulness techniques.

Another discipline producing significant developments in the field of embodiment is somatic psychology. Psychopathology has often been associated with a feeling of disconnect between the body and mind (Caplan et al., 2013). Somatic psychology is the study of the embodied self and a branch of this discipline is body-oriented psychotherapy. Important principles of this approach are the interconnectedness between the mind and body, and using therapy for emotional difficulties through the use of the body (Caplan et al., 2013). Many different techniques are used to achieve this. An emergent therapy is Grof and Grof’s (2010) holotropic breathwork, which is an integration of Western psychology and Eastern practices that includes mindful breathing, music and bodywork. An important element in this therapy is prolonged and deliberate over-breathing (Rhinewine & Williams, 2007). These authors investigated the underlying mechanisms of holotropic breathwork and found that hyperventilation over a prolonged period of time can lead to altered states of consciousness, similar to meditative, half-asleep and drug induced states. They indicate that the mechanism of withholding emotions in the body can lead to problems. Use of mind body techniques such as holotropic breathwork, may allow distressing material that has been hidden away to resurface and be processed. This mechanism nevertheless is hypothetical requiring further research to verify it. It is not suggested that MBIs adopt the techniques of body psychotherapies, but rather that the underlying mechanisms of mindfulness practice and their effect on therapy outcomes are investigated further.

There are a number of challenges in using ‘embodiment’ in research and practice. First, is the difficulty of clarifying the role embodiment plays in MBIs. An agreed definition of ‘embodiment’ does not exist neither within/ across MBIs, nor across other disciplines. It is also unclear what interventions are classed as MBIs, with some suggesting that derivatives of Mindfulness Based Stress Reduction are classed as MBIs, and others adding Acceptance and Commitment Therapy and Dialectical Behaviour Therapy into the equation. There are also challenges in motivating individuals to regularly practice mindfulness, who have difficulty maintaining attention to current moment-to-moment experiences, without fully understanding the rationale behind practising mindfulness. One way of improving the delivery of such interventions would be to include psycho-education about neuroplasticity and embodiment as part of the intervention.

Critics argue that increased use of third wave CBT therapies is not justified in relation to the evidence-base of the effectiveness for these interventions (Bass et al., 2014). Evidence on the effectiveness of MBIs however, including which elements of mindfulness contribute to treatment outcomes, is on the increase (Burg & Michalak, 2011). Recent developments in neuroscience, of which embodiment is a key feature, suggest that MBIs are not simply additions to traditional CBT, but have a distinctive value by offering something more (Bass et al., 2014). This ‘something more’, appears to be the implicit focus that mindfulness based therapies place on ‘embodiment’. More research is however needed to establish the effectiveness of mindfulness based therapies, including which specific components of mindfulness are associated with treatment efficacy and the role of embodiment in this. In order for this to happen there needs to be better consensus across disciplines about
The role of embodiment in third wave mindfulness based cognitive therapies

what embodiment really means. The difficulty of articulating in MBIs the relationship between the mind and body, is due in part to the fact that the body is not seen as a physical agent of change, like for example behaviour is conceptualised to influence cognitions in traditional CBT. It is awareness of the body that is the agent of change which still involves the mind (Leitan & Murray, 2014). Leitan and Murray (2014) conceptualise this relationship as a ‘grounded cognition’ and believe that a consideration of such issues can improve the way that we deliver psychotherapy. They also suggest that we should consider not using dualistic terms when discussing the mind and the body with clients. This could potentially also have a detrimental impact on the process and the therapeutic relationship, if clients find it difficult to grasp the mind and body as separate entities.

In conclusion, a number of sources are currently providing evidence of the pivotal role of embodiment in mindfulness. Johnson (2000) describes practice without paying attention to the body, as ‘being outside observers of our lives rather than fully immersed participants’ (p.5). Practice therefore becomes an ‘embodied’ mindfulness and cognition is grounded in this bodily experience (Leitan & Murray, 2014). Johnson (2000) warns us of the danger that our world is becoming increasingly disembodied, particularly through the use of technology and other media, which leads to the loss of awareness of our body and preoccupation with the mind leading to distress. This is where the strength lies in MBIs and lends some support for the idea that they do target different processes compared to traditional CBT therapies, particularly due to this focus on embodiment. However, more research is needed to elevate the evidence base of these therapies and we can start by using evidence already gathered on embodiment from other disciplines.

Correspondence
Rebecca Aloneftis
3rd year trainee counselling psychologist
City, University of London
rebecca.aloneftis.1@city.ac.uk
References


Discussion paper:
Perceptual learning for clinical populations with visual deficits after stroke
Jordi Asher

There are limited treatments for individuals who experience a loss of visual function as a result of a stroke. Yet, it is reported approximately 60 per cent of stroke survivors will have a permanent visual impairment. Recent research indicates that the visual system can learn new information, and improvements in perception are observed as a result of training. Perceptual training, therefore, may be a potential tool for visual rehabilitation. However, the rehabilitation of the visual areas through perceptual learning is a controversial topic, as it is still not yet fully understood where learning is taking place, and what, exactly, is being learned.

The Stroke Association (2016) estimate that 152,000 people in the UK will suffer from a stroke annually. Furthermore, each year there are approximately 17 million first-time strokes worldwide (Stroke Association, 2016). While age is still the biggest risk factor for stroke, with risk doubling every ten years after the age of 55, the number of people under the age of 64 experiencing strokes has increased by 25 per cent since 1990 (Stroke Association, 2016). Studies from the USA suggest that around 8 per cent of all strokes occur in individuals between 18–44 and in the UK there are approximately 400 childhood strokes each year (Ellis, 2010; Stroke Association, 2016). Children and younger adults are likely to live for many years with a stroke-related disability; thus, access to corrective treatment and therapies is imperative.

A visual deficit is one of the most common consequences of stroke, second only to weakness in the arms or legs. Approximately 60 per cent of stroke survivors will have a visual impairment after their stroke, and while there is a 50 per cent chance of spontaneous recovery within the first 30 days, this drops to 20 per cent between 1–6 months (Urbanski et al., 2014). After 6 months, no recovery is expected, and less than 5 per cent of the population can expect a full recovery (Urbanski et al., 2014). The impact of visual field loss on daily activities can be extreme, disrupting every aspect of daily life, from impaired reading and navigation of space, to loss of ability to drive. Unfortunately, in contrast to the aggressive therapies given to stroke patients with damage to the motor cortex, there are very few therapies for individuals to retrain their vision (Huxlin et al., 2009). As a result, vision loss is considered permanent. To date, there are no treatments that can fully restore lost vision and, overall, care for stroke survivors who experience visual problems is poor.

Early research by Hubel and Wiesel (1959) on the visual system of cats and kittens suggests that the adult visual system is unable to ‘recover’ after damage. They propose a critical period for normal nervous system development, during the first few months of life, after which the brain is hard-wired (Hubel & Wiesel, 1959). The critical period for humans is believed to occur in early childhood (Camilleri et al., 2014; Polat et al., 2004; Wandell & Smirnakis, 2009). This led to the view that the adult brain was unable to learn new information, and any damage encountered during or after the critical period was permanent.

Recently, researchers have found evidence to contradict this view. Perceptual
Learning (Gibson, 1963) defines the ability to get better at a perceptual task as a result of training. Exposure to and training in perceptual tasks has demonstrated improved perception in the sensory systems in humans (Fahle & Poggio, 2002) and animals (Gilbert et al., 2001). The realisation that the adult visual system could improve suggested that there was an element of plasticity within the sensory cortices.

Perceptual learning encompasses any consistent and permanent improvement in perception as a result of practice (Fahle & Poggio, 2002). Researchers have trained normally functioning novices to perceive cues that would be otherwise unseen, in complex tasks such as sexing of one day old chickens, detecting cancer in mammograms and locating abnormal features in an X-ray. Each of these examples, that was impossible for a beginner, was easily identified after training (Sowden et al., 2000).

Figure 1. Examples of grating stimuli commonly used in low-level vision research; a) a leftward oriented grating at high contrast with a low spatial frequency. Low spatial frequency gratings have large thick stripes. b) the same oriented, low spatial frequency stimulus at a lower contrast. Reducing the contrast makes the grating more difficult to see. c) a rightward tilted grating at a medium spatial frequency. The gratings are smaller and thinner. Finally, d) illustrates the same rightward orientated, medium spatial frequency grating at a lower contrast.
In the past, perceptual learning was attributed to improvements in cognition, however, recent evidence suggests that the changes may occur within the early visual system (Fahle & Poggio, 2002). Perceptual learning is not exclusive to complicated tasks, such as those listed above. Vision researchers have also found perceptual learning to occur reliably over several different types of low-level visual stimuli. Low-level visual stimuli are those that portray basic features such as contrast, orientation, shape, size and location, an example of which can be seen in Figure 1. Low-level visual experiments may involve varying the spatial frequency or the difference in contrast, and asking observers to identify the direction of tilt. Psychophysical studies have shown that observers are able to improve their ability to detect or discriminate in many visual tasks within vision science (Fahle & Poggio, 2002).

Perceptual learning has been widely investigated, and the finding that learning occurs is robust, in healthy observers and those with visual defects. Perceptual learning has been found to be a successful rehabilitation tool for people with amblyopia (lazy eye), a disorder affecting visual acuity. Perceptual training was found to have a long lasting effect on visual function (Polat et al., 2004). Unfortunately, there are some caveats which limit the effectiveness of perceptual learning as a rehabilitation tool. Firstly, rehabilitation requires laborious daily training with a lengthy time commitment. Huxlin et al. (2009) trained stroke survivors daily for up to 18 months, and patients only improved at the precise location trained. Training regimes are therefore highly repetitive over many months and years. Secondly, and most importantly, improvements are highly specific. This specificity indicates that what has been learned is not transferable to other very similar tasks. Learning is specific to the location of the trained stimulus, the eye of training and the orientation of the stimulus (Fahle & Poggio, 2002). One of the fundamental questions that researchers in the field are attempting to address, are the conditions in which training on one perceptual task, transfers to other tasks.

Because perceptual learning leads to a specific improvement that is dependent on the low-level features of a trained stimulus, such as orientation and location, it has been argued that it must involve an area in the early level of the visual cortex called V1. The receptive cells in V1 are known to be selective for orientation and other simple features such as the location of edges (Gilbert et al., 2001). However, there is evidence that perceptual learning may not be exclusive to the lower levels of the visual hierarchy. For example, visual motion perception makes use of a ‘motion pathway’ between the early visual area V1 and a later processing area MT. Huxlin et al. (2009) suggest that using motion stimuli in perceptual learning training may access ‘islands of activity within V1’ that are not accessible in the feed-forward hierarchy, yet may be intact in the feedback system. Overall, this suggests that perceptual learning is not exclusive to V1.

Furthermore, there is evidence that perceptual learning involves higher brain regions. Attention and feedback have been shown to play a major role in perceptual learning, indicating that observing a stimulus is also subject to top-down influences (Gilbert et al., 2001). For example, in order to process a visual scene, the attentional system must be engaged and maintained. This is driven by the bottom-up process of observing a stimulus, and the top-down intentions and focus of the observer (Ahissar & Hochstein, 1993). Passively observing a stimulus does not translate into a learning experience. Further evidence for top-down influences comes from Herzog and Fahle (1997) who undertook a comprehensive analysis on the role of feedback in learning on a Vernier acuity task, which measures the ability of the observer to detect a misalignment in a broken line. Herzog and Fahle (1997) found that perceptual learning was dependent on external feedback, irrelevant of feedback type. Conditions that had no external feedback failed to show the learning trends evident for groups that
did receive feedback. This reliance on feedback has led some to suggest that perceptual learning does not improve an observer’s ability to detect or discriminate a signal, but rather reflects a cognitive improvement in making a decision that may be influenced by the presence of feedback.

Due to the overwhelming evidence of the involvement of higher level brain areas, the proposal that area V1 can change is still quite controversial. Wandell and Smirnakis (2009) argue that the nature of plasticity in V1 is uncertain, and find that the evidence for plasticity is masked by inconsistencies and unanswered questions. While there is no doubt that neural plasticity occurs, Wandell and Smirnakis (2009) suggest that some cortical networks may need stability, and re-routing paths in the visual system may have a negative impact by, for example, disrupting computational circuitries in correctly functioning perceptual processes. Wandell and Smirnakis (2009) argue that adult V1 has limited plasticity. This, interestingly, implies earlier views, that considered perceptual learning an improvement in cognition, may have been correct.

Even so, interest in perceptual learning and its benefits to individuals with cortical visual deficits remains robust. Recently, there has been evaluation on how the perceptual learning process can be manipulated using neuromodulation techniques such as transcranial magnetic stimulation (TMS) or tran-

Figure 2. Reprinted from Camilleri et al. (2014), displaying the improvement in contrast sensitivity as a function of spatial frequency. Observers who received training and tRNS (A) display an increase in contrast detection in comparison to observers who received training alone (B).

While there is agreement amongst perceptual learning researchers that learning occurs within different processing levels along the neural hierarchy, and that learning is subject to both bottom-up and top-down influences, there are still many unanswered questions about the neural mechanisms underpinning the perceptual learning process. The potential of neuromodulation to manipulate and accelerate learning opens an area of inquiry that may be able to further address some of the open questions about neural plasticity. As a recipient of a PsyPAG Research Bursary, funds will go to supporting my research into the relationship between cortical plasticity and perceptual learning. My research builds on the findings from Huxlin et al. (2009) and involves combining a behavioural motion coherence task with sub-threshold TMS. A motion coherence task requires the observer to indicate the general direction of motion of the stimuli (dots on a screen). A common method of creating a motion coherence task is to vary the ratio of signal to noise. However, an alternate method, and the one used in my research is illustrated in (b). This method does not differentiate between signal and noise, rather coherence is created by varying the distribution of the direction of movement of dots. Dots moving together in a straight line are in perfect coherence whilst dots moving randomly, have no coherence. Perceptual learning occurs when observers are able to detect the global direction of movement at lower levels of coherence at the end of the learning period.
cranial electrical stimulation (tES). These techniques are proposed to accelerate neural plasticity, either by increasing the activity of the sodium ion channels or by modulating the firing rate of neurons being stimulated, respectively (Camilleri et al., 2014). While most research has investigated neuromodulation on healthy participants, Camilleri et al., (2014) used transcranial random noise stimulation (tRNS), a type of tES that alternates current at random frequencies, to improve contrast sensitivity in individuals with mild myopia (short-sightedness). Two groups of eight observers undertook two weeks of perceptual training on a contrast detection task. Improvements within the two-week study were only found in those individuals who received both tRNS and behavioural training (Figure 2). Camilleri et al. (2014) cite an earlier study reporting the same improvements, without tRNS, which took two months. This suggests that it is possible to reduce the long training times usually involved with perceptual learning regimes, and obtain similar results within a much shorter period.

While there is agreement amongst perceptual learning researchers that learning occurs within different processing levels along the neural hierarchy, and that learning is subject to both bottom-up and top-down influences, there are still many unanswered questions about the neural mechanisms underpinning the perceptual learning process. The potential of neuromodulation to manipulate and accelerate learning opens an area of inquiry that may be able to further address some of the open questions about neural plasticity. As a recipient of a PsyPAG Research Bursary, funds will go to supporting my research into the relationship between cortical plasticity and perceptual learning. My research builds on the findings from Huxlin et al. (2009) and involves combining a behavioural motion coherence task with sub-threshold TMS. A motion coherence task requires the observer to indicate the general direction of motion of the stimuli (dots on a screen). A common method of creating a motion coherence task is to vary the ratio of signal to noise Figure 3 (a). However, an alternate method, and the one used in my research is illustrated in Figure 3 (b). This method does not differentiate between signal and noise, rather coherence is created by varying the distribution of the direction of movement of

![Figure 3](image_url)

Figure 3. Global motion coherence tasks require observers to make a judgement on the global direction of the movement of the dots. Tasks in a) combine signal and noise to create a stimulus, b) varies the distribution of the direction of motion of the dots.
dots. Dots moving together in a straight line are in perfect coherence whilst dots moving randomly, have no coherence. Perceptual learning occurs when observers are able to detect the global direction of movement at lower levels of coherence at the end of the learning period.

During the first phase, healthy observers will complete behavioural tasks alone, without brain stimulation. This establishes the rate of learning for global motion. All participants will also complete several baseline and post-training tests. The results will, firstly, identify if perceptual learning has taken place, and secondly, if training on a motion coherence task improves performance on untrained visual tasks. Later phases aim to evaluate learning rates using brain stimulation alone and finally, by using a combination of learning and stimulation. We predict there will be a multiplicative effect when combining perceptual learning and TMS. By using healthy observers in the first instance, it is hoped we can evidence proof-of-concept for the technique. In the future we hope that combining sub-threshold TMS and perceptual learning may have clinical applications to help people who have experienced a visual deficit as a result of stroke or other brain injury.

Correspondence
Jordi Asher
PhD Student
Department of Psychology
University of Essex
E-mail address: jashera@essex.ac.uk

References
Feature article:

Pre-school Autism Communication Therapy (PACT): Research into practice

Katy Jones

Autism Spectrum Disorders (ASD) can now be identified as early as eight months and early interventions such as Pre-school Autism Communication Therapy (PACT) are recommended. The importance of early intervention and the relevant research is highlighted and the current plans to evaluate PACT as a pre-assessment intervention in North Wales are discussed.

ASD and the importance of early intervention

THE CURRENT PREVALENCE of Autism Spectrum Disorders (ASD) in the UK is around 1.1 per cent which is more than 1 in 100 people (The NHS Information Centre, 2012). Given that the emergence of ASD related difficulties (which can be identified through observation of the infant’s behaviour and social interactions) begins at around 8–14 months, the diagnosis of Autism by the age of 3–4 is now commonplace in many health systems (Aaron et al. 2003).

ASD is currently defined in the Diagnostic and Statistical Manual (DSM) as a condition that is characterised by communication deficits such as difficulties with building and maintaining friendships with others, responding appropriately during conversations and misreading nonverbal interactions with others (American Psychiatric Association, 2013). People with ASD may also be intensely focused on particular items or topics of interest and sensitive to changes in their routine or in the environment around them (American Psychiatric Association, 2013).

As we now know that the difficulties associated with ASD can be identified as early on as eight months into a child’s life, it is recommended that intervention for these infants which addresses the difficulties with social communication are addressed as soon as they first begin to emerge (Yirmiya & Charman, 2010; Aman et al, 2005).

It is proposed by recent theoretical models that the pre-existing ASD-related difficulties experienced by infants might then also be further compounded by the environment around them (Elsabbagh & Johnson, 2010). For example, caregivers of an infant who does not respond in the way they might typically expect them to or who doesn’t actively seek out interactions with them, might then be discouraged from offering the right amount of social interaction thus decreasing the amount of opportunities the child has for social learning (Charman et al, 2013). This scenario might play out in the form of a parent who is desperate to engage with their young child but is ignored during play and so the parent, feeling (quite understandably) rejected, decides to remove themselves from the play, feeling that they are instead, interrupting them. This theory further highlights the importance of early intervention for those infants at risk of developing social communication disorders such as ASD.

Due to the importance of intervening as early as possible, the focus has been on providing an intervention tailored to address the social communication difficulties experienced by infants. The NICE guidelines recommend that for pre-school children, the intervention should be play-based, aiming
to address the core features of autism by increasing joint attention, engagement and reciprocal communication through using video-aided feedback and parent mediation (NICE, 2003).

‘Parent mediation’ refers to a model of working that acknowledges the parent as the expert of their child and focuses on working collaboratively with parents to support their children’s social communication rather than a directive teacher-parent approach. The parent-mediated approach has been associated with positive benefits for later social and communication functioning in children with autism in longitudinal studies (Siller & Sigman, 2002; Siller & Sigman, 2008).

Joint attention (also sometimes referred to as ‘Mutual Shared Attention’ – MSA) is a skill which is particularly important to the development of language. Before we learn to talk, we use a variety of non-verbal communication skills to convey information or influence another’s behaviour, such as eye contact, pointing and facial expressions (Siller & Sigman, 2002). For example, a six month old child who wishes their parent to know that they want the drink that’s sitting on the counter, might grunt, look towards the drink and then at mum or dad and may even point at the drink. Once the child learns the words, these slot into the framework of non-verbal skills that are already there and the child can now point, look at mum or dad and may even point at the drink. Once the child learns the words, these slot into the framework of non-verbal skills that are already there and the child can now point, look at mum or dad and may even point at the drink. When the child learns the words, these slot into the framework of non-verbal skills that are already there and the child can now point, look at mum or dad and may even point at the drink. Once the child learns the words, these slot into the framework of non-verbal skills that are already there and the child can now point, look at mum or dad and may even point at the drink. Once the child learns the words, these slot into the framework of non-verbal skills that are already there and the child can now point, look at mum or dad and may even point at the drink. Once the child learns the words, these slot into the framework of non-verbal skills that are already there and the child can now point, look at mum or dad and may even point at the drink.

Preschool Autism Communication Therapy (PACT), originally developed in Manchester by Catherine Aldred – speech and language therapist. PACT was originally created for children with autism, but the techniques can also be used for any child with a social communication difficulty. During a PACT session, the therapist will film the parent playing with the child for ten minutes and then together they will watch the video afterwards and note the parts where the parent felt they had the best shared attention and interaction with their child. The therapist will then support the parent to unpick what it was that they did to help their child to share their attention. For example, imagine a young boy is pushing a toy car along the floor and is leaning down to look at the wheels as they move. His mother bends down, watches him for a little while and then picks up a similar car and decides to copy him. She kneels down opposite the boy so that she is in his eye line and starts to push the car up and down. For a brief moment, the boy looks up at his mother before continuing to push his car. With the gentle guidance of the therapist asking questions such as ‘what do you think it was that helped him to do that?’ the mother might say that it was because she copied him and positioned herself lower down, closer to his eye level that encouraged him to look at her. As PACT is a parent-led intervention, the parent or caregiver is then encouraged to develop their own goals for home practice, guided by the therapist. With the previous example in mind, the mother might choose to practice copying her son’s actions at home during their play together.

In 2010, Green and his colleagues carried out a Randomised Control Trial (RCT) looking at the effectiveness of PACT with children aged 2–4 who had received a diagnosis of autism. The children were randomly assigned to two groups; treatment as usual, and a parent-mediated communication-focused intervention (PACT) also with treatment as usual. Autism severity was measured for each child before they began the interventions, and 13 months afterwards, using
Pre-school Autism Communication Therapy (PACT): Research into practice

the social communication algorithms on the Autism Diagnostic Observation Schedule (ADOS). At 13 months, the severity of symptoms was reduced by 3.9 points in the group that received PACT as well as treatment as usual and 2.9 points in the group that only received treatment as usual representing a between-group effect size of −0.24. On the basis of such a small effect size, the study could not recommend PACT as an intervention for reducing autism symptoms, however, there were significant positive effects found in the PACT group for parental synchronous responding to child, child initiations with parent, and for parent-child shared attention. Parent-reported outcomes were also positive.

In 2013 and 2015, Green and his colleagues carried out further research looking at the effectiveness of such an intervention with children deemed to be ‘at risk’ of developing autism, who had not yet received a diagnosis. Studies have shown that around 20 per cent of infants with an older sibling with a diagnosis of ASD went on to develop ASD themselves and another 20–30 per cent went on to develop other social communication disorders (Bryson et al, 2011; 2013). The outcomes from these studies further demonstrated the importance of sensitive responding from the parent. In the most recent study, infants between 9 and 14 months were used due to the brain plasticity at this period and potential for accelerated social and general learning. The results suggested that the intervention had increased infant attentiveness to their parent and that an increase in caregiver non-directiveness reduced autism-risk behaviours and improved the infant’s ability to shift their attention from one stimulus to another.

Current practice

In Gwynedd, North Wales, we have been fortunate enough to provide PACT through a full-time assistant psychologist for the past three years, thanks to a grant from Families First. Our model has involved contacting families of pre-school aged children on the waiting list for an assessment of their social communication skills and offering them PACT whilst they wait for assessment and on average families have received 4-6 sessions with some receiving more. We have and are still collecting qualitative information along the way from some of the parents and caregivers who have received PACT and are also currently looking at analysing some of the PACT videos to look more closely at the parent-child interaction. As well as providing PACT through an assistant psychologist, clinical psychologists in the disability team have also been offering PACT as part of their clinical work.

The disability team in Gwynedd have also started to deliver training in PACT to local nursery workers, through one of our clinical psychologists, who already works with young children with social communication difficulties. Thanks to a grant from the Welsh government, a resource was developed for anyone that works closely with children with social communication difficulties and their families. The resource, called ‘May I join you?', developed by Dr Helen Delargy (Clinical Psychologist), is provided bilingually and is based on principles from PACT. The resource talks about eight key strategies that are important in encouraging social communication through play such as ‘watch and learn about her’ and ‘be his mirror’ and outlines the rationale behind why these strategies are important.

The findings from the above studies and the NICE recommendations for early intervention have highlighted the importance of interventions such as PACT which aim to address the early markers of ASD through focusing on the parent-child interaction. We hope to continue providing PACT through a full-time member of staff but also through other professionals in the service who are able to provide PACT alongside their clinical work. In Gwynedd, we currently run PACT supervision groups once a month where professionals who deliver PACT can meet to bring videos and discuss cases and we hope that other professionals who work with
young children and who have an interest in delivering PACT will have the opportunity to work using these principles.

Katy Jones
Assistant Psychologist for BCUHB NHS
Katyjones2188@yahoo.co.uk

Acknowledgements
Dr Helen Delargy, Senior Clinical Psychologist

References
Feature article:

Childhood obesity: ‘Super Dynamic Food Dudes' to the rescue

Catherine Sharp

Globally, there are more than 42 million pre-school children who are overweight or obese (WHO, 2013). This highlights the urgent need to design effective behaviour change interventions that establish a healthy lifestyle where children enjoy eating fruit and vegetables, and being active, during early development. This paper will describe my PhD research of an intervention set to do just that!

Introduction

IT’S NEARLY TWO DECADES since the World Health Organisation first identified childhood obesity as a ‘global epidemic’, and unfortunately the situation has still not improved. By 2013, it was estimated that over 42 million pre-school children globally were either overweight or obese (WHO, 2013). This has serious ramifications as obesity can result in multiple preventable non-communicable diseases such as: cardiovascular disease, diabetes, and some cancers (Finer, 2015). With the UK economy already struggling to balance its books, they certainly do not need to be spending an additional £47 billion annually on a problem that is preventable (Dobbs et al., 2014). Something must be done to change the current trends of childhood obesity, as the cost is only likely to increase.

One of the major causes of obesity is an imbalance between calorie intake and energy expenditure (Hill et al., 2012). Two behaviours correlated with obesity are the low consumption of fruit and vegetables (He et al., 2004) and low physical activity levels (Lakka & Bouchard, 2005). Children are currently not meeting the guidelines of either behaviours (Public Health England, 2014; Tucker, 2008). There is increasing evidence that fruit and vegetable intake can displace foods high in fat and sugar from the diet (Epstein et al., 2001). Research also shows that poor diet and sedentary behaviour tend to track from childhood into adulthood (Freedman et al., 2008; Telama et al., 2014). Consequently, in order to help tackle obesity we need to help children build a lifestyle that includes eating fruit and vegetables, and regularly participating in moderate-to-vigorous physical activity.

My PhD research has built on the successful Food Dudes Primary School Healthy Eating Programme (Horne et al., 2004; Lowe et al., 2004), to develop a programme tailored to pre-school children, targeting their consumption of fruit and vegetables, and their physical activity levels in the school and home. This paper will describe the research development and how the PsyPAG Research Grant bursary that I have gratefully received will be utilised.

Food Dudes

The Food Dudes Primary School Healthy Eating Programme was originally developed by Lowe and Horne in 1990. The objective of the programme was to establish diets rich in fruit and vegetables in primary school aged children (4-11 years) by developing an evidence-based programme incorporating 50+ psychological principles drawn from a range of areas including: behaviour analysis, behaviour change, and developmental psychology. The 3 core principles that underpin the programme are (i) Role-modelling, (ii) Repeated presentation, and
(iii) Rewards. These are commonly referred to as the ‘3Rs’.

During the programme, children watch videos of the ‘Food Dudes’, who are four animated and live-action characters, who enjoy eating fruit and vegetables and getting lots of ‘special energy’ as a result of eating the foods (role-modelling). Each of the characters has a favourite fruit or vegetable. In the classroom, children have multiple opportunities to consume the target raw fruit and vegetables and acquire a taste for the foods (repeated presentation); and finally, the children receive small prizes for the behaviour of consumption (rewards). The aim is to change the children’s mind-set that these foods are ‘uncool’, and that they actually want to eat such foods.

Experimental evaluations of the programme found the synergy of 3R’s to be an effective method of increasing the children’s fruit and vegetable consumption with increases between 60–200 per cent of target fruit and vegetables, particularly in the poorest eaters (Lowe et al., 2004). The programme also transfers into the home environment. Horne et al. (2009) found 12 months following the programme, parents provided significantly more fruit and vegetables for their children as compared to the control condition, and the children consumed significantly more compared to baseline and the control condition (all $p<.001$). To date, more than 700,000 children across the UK, Ireland, Italy and USA have benefited from the programme.

However, given the severity of the current obesity crisis, it became evident that the Food Dudes programme needed to broaden their target population to target younger children; specifically, pre-school aged children (3–4 year olds). Also, the principles that underpin the programme could also be used to target other behaviours, particularly physical activity.

In 2012, we tailored the primary school version of the programme, leading to the development and evaluation of a nursery-based programme. As the programme is targeting a younger age group, the Food Dudes characters themselves were modified to ensure that they would appeal to the new target audience and be appropriate for their developmental stage, as were the materials and procedures. As in the primary school version, the characters have maintained their favourite fruit or vegetables: Rocco loves broccoli; Razz loves raspberries; Tom loves tomatoes; and Charlie loves carrots. The children watch an animated role-modelling video of the Food Dudes and sing along to a song that encourages them to be fruit and vegetable eaters. Each time the children eat the target fruit or vegetables, of which they are repeatedly presented, they receive an inexpensive prize, e.g. stickers and tokens.

In order to test the effectiveness of our new initiative a controlled evaluation study was designed that took place in six nursery classes attached to primary schools across the West Midlands ($N=289$). The children’s consumption of four target fruit and four target vegetables was evaluated using visual estimation. The results demonstrated large and lasting increases in the pre-school children’s consumption at three-months follow-up (Sharp et al., 2015). The Food Dudes nurseries consumed significantly more of both the target fruit and vegetables as compared to the control condition, which received fruit and vegetable provision only.

This research was recognised by a Local Area Research and Intelligence Association award and following the success of the trial, local authorities across the UK commissioned the programme to be implemented in over 200 nurseries. The ability to establish and sustain behaviours using the key principles outlined is clear. As increasing healthy eating is only one way to reduce childhood obesity, we have now applied the principles to develop a new programme targeting pre-school children’s low physical activity levels. The same characters were used as role models but referred to as the ‘Dynamic Dudes’.
**Dynamic Dudes**

The UK Department of Health (2011) recommend a daily minimum activity target of 180 minutes for pre-school children. Despite the common notion that pre-school children are always active, they are not achieving recommended levels (Tucker, 2008). With the help of the Dynamic Dudes we are trying to change this.

Each of the four role-modelling characters not only have a favourite fruit or vegetable, but now they also have a favourite activity; Rocco likes football, Razz loves to dance, Tom likes gymnastics, and Charlie likes martial arts. Utilising these signature sports, we have created four exercise videos and four interactive stories. In keeping with the themes of the videos and stories, complementary music was composed for each by students from Bangor University Music Department. The exercise videos and interactive stories are between 10 to 12 minutes in length, and the children are invited to join in the actions modelled on screen. This provides the children with a brief bout of moderate-to-vigorous activity.

A proof-of-principle role-modelling intervention was conducted in North Wales to test the effectiveness of the Dynamic Food Dudes programme. The children completed the new videos in their nursery class following a daily schedule stipulated on their Dynamic Dudes calendar. In this study, no tangible prizes were given to the children for their participation. The children’s physical activity levels were evaluated through their step count. In order to accurately measure the children’s activity each child wore a Fitbit Zip activity monitor. The Fitbit Zips were worn in a pocket of a ‘Rainbowtop©’, a custom-made cotton rainbow-striped tabard. Preliminary results found the intervention was successful in increasing pre-school children’s physical activity levels ($p<.001$). Teachers reported in a questionnaire that the videos were enjoyed by the children and that they considered them acceptable for the classroom. With growing pressures on teachers it is important that school-based programmes are easy to integrate into the classroom and based on the preliminary results, feedback, and our own observations, refinements were made to the exercise videos and interactive stories in advance of a controlled pilot trial.

Drawing on the findings of both the Food Dudes programme and the Dynamic Dudes programme, we collated the programmes into a multi-component programme targeting both healthy eating and physical activity. Here the ‘Super Dynamic Food Dudes’ came to the rescue.

**Super Dynamic Food Dudes**

Currently nearly 200 children from four nursery classes attached to primary schools in North Wales are becoming Super Dynamic Food Dudes. The multi-component programme was delivered in sections: (i) a physical activity component, (ii) a healthy eating component with a physical activity stream, and (iii) a maintenance phase. The PsyPAG Research Grant will cover part of the costs of the raw fruit and vegetables that are presented to the children during the healthy eating component.

To help transfer the effects established in the classroom into the home environment, the children have also had password-protected online access to the exercise videos and interactive stories where they can complete the videos and stories with their parents and siblings. In time, resources and instructions will also be distributed for parents to introduce the healthy eating intervention at home.

The study spans six months, and will be completed in July. Again, the children’s physical activity levels are evaluated using the Fitbit Zips, and food consumption is measured using visual estimation of plate reside in the classroom. Additional measures taken in this trial are anthropometrics. This has included height, weight, waist circumference and blood pressure. These are important measures to evaluate long-term impact of the programme and so we conducted them here to see how procedurally possible the measures were in the given setting. We did
not have any problems, and will use these measures in future trials. The intervention condition will be compared to the control condition who have participated in all the objective measurements, but are continuing with their typical nursery practice. We will also be evaluating the home interventions administered in the intervention condition only using qualitative measures (e.g. focus groups and semi-structured interviews with parents).

**Conclusion**

As aforementioned, the research is currently underway and I look forward to disseminating the results when completed. Seeing the children who did not want to eat the foods, and/or were not active, engaging in both the target behaviours makes all the hard work worthwhile. I would like to thank the School of Psychology at Bangor University and PsyPAG for their financial contribution that allows me to undertake this important research. If you would like more information about the research please contact me or visit http://caer.bangor.ac.uk.

**Correspondence**

**Catherine Sharp**
PhD Student, School of Psychology, Bangor University
c.sharp@bangor.ac.uk
@Cas__Sharp
References


Thank you very much for your time today, Dr Bogosian. To begin, can you tell me about your job?
I am a research fellow and lecturer in health psychology. Recently, I also took on the director of the doctorate in Health Psychology role.

What are your current research interests?
I’m looking at how people adjust to chronic progressive neurological conditions and how their families adjust to the physical and psychological challenges of these conditions. By finding out more about the adjustment processes, we will be able to design better interventions for people and their families. I’m also involved in designing and delivering mindfulness courses for people with progressive neurological conditions. Those are some of the things I do! (For further details of Angeliki’s work please see http://www.city.ac.uk/people/academics/angeliki-bogosian)

What made you choose mindfulness in particular?
Mindfulness has become more and more popular. Mindfulness is a technique that allows us to respond with more skillful control to whatever is happening right now, whether that is good or bad. It involves redirecting our attention from worrying about what has happened or may happen, instead focusing on the present with an open-minded curiosity. There are now more and more studies on mindfulness in different areas and for different populations. It looked quite promising in terms of its effects, especially in reducing stress. I was quite interested in it from a personal perspective towards the end of my PhD. That was quite stressful and at that time I took part in an eight-week mindfulness course, which I found very useful and exciting. After that, I started reading and researching around mindfulness and the theoretical basis for the concept. I started a mindfulness practice and then completed a teacher training course organised by Bangor University to enhance and deepen my understanding of mindfulness. At about the same time, a large randomised control trial was published, which showed that mindfulness could be effective in improving quality of life in people with multiple sclerosis. At the time, I was working in the area, so it was a good link for me to start introducing mindfulness interventions to my research.

Do you practice mindfulness in your personal life?
Yes, to be a mindfulness practitioner you have to practise, it’s one of those things you cannot teach unless you know from experience.

How did you get into your area of research?
After my Bachelor’s in Psychology, I was very interested in family relationships and how
illnesses and long-term conditions impact on family members and family relationships. This was the focus of my undergraduate thesis. When I started my Masters in Health Psychology, my supervisor at the time was running a big randomised control trial for people newly diagnosed with multiple sclerosis (MS). I undertook a parallel project, and I interviewed the partners of people who had been newly diagnosed. It was the first study that was conducted on partners in the very early stages where people weren’t experiencing many or very severe symptoms. We found that the impact was quite severe; people were feeling isolated and expressed fears about the future. I wanted to explore the impact of MS on the families further and so I moved into looking at how MS might impact the children as well. My PhD was on the effects of MS on children and my research gradually developed from there.

What interests you about it?
I think living with progressive neurological disorders can be very challenging. Things change from day to day and from one year to the next. Therefore, people have to find new ways to adapt and new ways to manage the illness constantly. Most people will eventually find ways to manage psychologically. Some people might struggle, and it’s important for health psychologists to find ways to help.

You have recently taken on the role as the Director of Health Psychology training (DPsych) at City, University of London. What is this role like?
I’m quite new to this role and at this stage we’re trying to make sure we have the best learning environment and the best support for our trainees. I also need to make sure we meet the requirements of the British Psychological Society (BPS), the Health Care Professions Council (HCPC) and the university quality standards. We’re also working on the Health Psychology field here at City and strengthening the links between the university and the trainees’ work placements. We’re trying to find ways to disseminate the work that we do and the work the trainees do to the public through public engagement activities. One of the things that is currently happening is the doctoral students’ conference in June (for further details, see http://www.city.ac.uk/events/2017/june/5th-annual-shs-doctoral-research-conference)

In August you ran the Reykjavik Marathon 2016 to raise money for MS Society UK, as well as completing other runs previously. What motivates you to do these things? They’re obviously very physically challenging.
Yes, they are physically challenging! I do enjoy running and having a goal like a marathon keeps me on track. Also, the MS Society has been supporting my projects for many years now, and I feel very passionate about the work the charity does. MS Society UK does a lot around providing information through leaflets and their website, managing a helpline, referring people to different services if needed, providing grants for individuals who cannot afford the equipment. They are hugely helpful. They also support a huge amount of research, not just biological research but psychological too, such as helping people improve their quality of life. It’s a fantastic charity, and I feel privileged to raise money for a charity. It keeps me motivated in that I am contributing something and helping in a very small way. (For further information on the MS Society see https://www.mssociety.org.uk/)

What has been the highlight of your career to date?
The highlight of my career was when I was invited to talk at an event for healthcare professionals who work with people with MS organised by the Italian MS Society. They invited me to talk about my research and findings and their clinical implications. That was the moment I realised that I could make a difference, that I am making a difference and helping others and promoting good care. It was really interesting; I had a lot of fascinating discussions about how we could change health care and improve psychological support and
include it in health care. I was very humbled that they invited me and I was very happy to contribute. (For further information on the Italian MS Society, see http://www.aism.it/index.aspx?codpage=intro_aism_fism_eng)

**What would you say has been the most defining moment of your career?**
Probably when I was awarded a junior MS Society fellowship that helped my research. It helped me to crystallise where I want to take my career and think deeply about what I want to find out more about. That was the beginning of my research career.

**Where do you think the future of health psychology lies?**
What we need to do as health psychologists is link up with other health professionals, such as doctors, nurses, physiotherapists, etc., and promote thinking of the psychological underpinnings. The psychological aspect of a condition can have a huge effect on people and how they adjust to their condition. It’s crucial. We need to promote what we do and think about what we can offer to health services so we can move to a more biopsychological model and have a greater understanding of health.

**Finally, what advice would you give to anyone thinking of pursuing a career in health psychology?**
I would say be open and not follow the trend or follow what most people are doing. There is a lot of theory within health psychology and outside health psychology and even outside of psychology altogether and different studies. Don’t be a passive consumer in all of this but think critically about it. Think about what do we know, what are we missing, how can we move things forward, what do we need to add, what do we need to understand better? This is the only way you can make a difference and come up with a novel and effective intervention for your service users, as well as new ideas and models in health psychology.

**Thank you very much for your time Dr Bogosian, it’s been very interesting talking to you!**

**Correspondence**
Suhana Begum,
Trainee Health Psychologist,
City, University of London
suhana.begum.1@city.ac.uk
Book review

_Recovering from Psychosis_
Stephen Williams
Routledge, 2015
ISBN: 978-0415822053
146 pages; Paperback; £19.99
Reviewed by Roxanne Armstrong-Moore

Mental illness can be a terrifying experience for individuals and the books/research provided in academia can be limited in offering personal perspectives. Recovering from Psychosis is a unique text, offering a combination of empirical evidence alongside Stephen Williams’ own personal experience of dealing with mental health issues. This book aims to provide a critical review of current evidence of psychosis, treatments and recovery whilst at the same time; offering a semi-autobiographical commentary.

The chapters and the order in which they are placed enable the book to take the reader on a journey. Each chapter begins with a brief paragraph synthesising the aims of that chapter, which is helpful. It begins with an introduction of psychosis and leads on to the issues surrounding the illness, reviews of treatment approaches, research and politics, measurements of recovery and ends with reflections upon recovery. Each chapter is thoughtfully written, with current empirical evidence and a complementing side order of lived experience from the author in easy to see shaded boxes throughout. There are also firsthand accounts of experiences of current therapies, which is valuable for any mental health professional, supportive to sufferers of psychosis, and an eye-opener to the lay-reader.

Something that would be of high interest to practitioners in the field is the chapter on treatment and interventions for psychosis. Williams discusses evidence and experience of treatments he has delivered as a qualified mental health nurse. This chapter includes discussion of; Cognitive Behavioural Therapy, Metacognitive Retraining approaches, Cognitive Remediation Therapy, Mindfulness for Psychosis interventions, Sociocultural Learning, Acceptance and Commitment Therapy and Metacognitive therapy. This is a comprehensive review, showing the reader the diversity of currently available treatments and the evidence surrounding their effectiveness.

Within the treatment chapter, Williams discusses medication – something which is often given to those with psychosis, despite varying evidence of their effectiveness. He discusses his own side effects, noting that many are not mentioned in scientific literature. Williams appears to have a bleak view of anti-psychotics, which is not surprising considering his, and many others accounts of such negative side effects. It is refreshing to have an accompanying account from an author who has lived experience of the topic they are writing about – something that this book does throughout.

The book ends with suggestions for future practise. Williams states that there should be numerous changes in the current system and suggests a different view on recovery. He argues that rather than trying to cure an individual of harmful experiences, service providers should focus on growth from experiences and wellbeing. He calls for change in this area that is ‘systemically exacerbating suffering’.

Changes in the current system can occur by increasing the level of co-production in the way that services and care are developed, implemented and evaluated. He explains

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that there are required changes in numerous areas such as how individuals are treated and who is treated. In order to create and develop a ‘co-productive philosophy’ and to lobby these changes, Williams suggests that mental health professionals continue to critique and challenge such systems in order to reform the way care is provided.

Williams also argues that at present the tools used to create change in the system, such as service user inclusion only serve to maintain the status quo. He questions ‘who decides which service users get to be included and what do they get to be included in?’. This triggers important questions for mental health professionals and encourages them to challenge the current system, so that those who are making the political changes can observe a wider knowledge of recovery.

This book is ground-breaking in the way it covers all aspects of psychosis. It offers current empirical evidence, combined with the author’s own personal experience, given to the reader by Williams who is also a qualified mental health nurse and lecturer. I think it is inspiring to those who are struggling with any type of mental illness, as it shows that there is light at the end of the seemingly dark tunnel. Williams provides an excellent example of someone who knows the complexities of the system from both sides; as both a patient and a provider. I would strongly recommend this book to students, practitioners, those suffering from mental illness and anyone who would like to further their knowledge of this complex field.

Correspondence
Roxanne Armstrong-Moore
PhD Student, Faculty of Applied Sciences, University of Sunderland
Roxanne.armstrong@sunderland.ac.uk
Conference review:
The combined European Health Psychology Society and BPS Division of Health Psychology Annual Conference 2016 (or ‘Why don't the seagulls sleep?!’)
Sue Hazleton & Michelle Constable

The European Health Psychology Society and British Psychological Society Division of Health Psychology celebrated the 30th anniversary of both organisations by delivering a joint conference that was held in Aberdeen 23–27 August 2016. The extensive programme included a wide variety of health psychology topics and keynote lectures from experts such as Professor Marie Johnston (University of Aberdeen) and Professor John Cacioppo (University of Chicago), giving health psychologists and trainees fantastic learning and networking opportunities with both UK-based and European colleagues.

The joint European Health Psychology Society and British Psychological Society Division of Health Psychology Conference took place in Aberdeen in September marking the 30th anniversary for both organisations. The conference theme this year was ‘Behaviour Change: Making an Impact on Policy and Practice’. The extended four-day programme attracted 900 submissions from 47 countries under 20 conference tracks. The scientific programme comprised of 26 symposia, five roundtable discussions, 45 oral paper sessions, and 59 ‘interactive’ posters as part of the poster sessions, where authors stood by their poster and presented to a small audience. Needless to say there was something for everyone who has an interest in health psychology.

Many conference delegates stayed in student accommodation at Aberdeen University, which was some distance from the conference venue (and the centre of Aberdeen), although this gave those taking on the 20-minute walk between sites the opportunity to see Aberdeen’s lovely beach and the beautiful Bridge of Don, one of Aberdeen’s best loved landmarks. The other major topic of conversation (apart from high-level health psychology discussion of course) was why the seagulls in Aberdeen didn’t sleep at night. The seagulls put on their best vocal performance both day and night, leading to the conclusion that they must be the noisiest seagulls in the world! Any lack of sleep was put down to the seagulls rather than the excellent social and networking opportunities that the conference had to offer (which could go on into the wee hours!).

One of the keynote lectures was delivered by Professor John Cacioppo, from the University of Chicago, who gave an engaging and powerful speech on social neuroscience entitled ‘The Social Brain, Health and Wellbeing’. It was the most popular event of the conference, with a number of delegates having to stand in the packed main lecture theatre. He explained the neural, hormonal, cellular and molecular mechanisms underlying the social structures and processes that define us as a social species. One of the main take-home messages was the negative effect that loneliness and social isolation can have on the brain, with Professor Cacioppo reporting that the effects of loneliness can last for two years (Hawkley et al., 2010). There has been a great deal of research
on this topic, partly through the Chicago Healthy Aging and Social Relations Study (CHASRS) which has shown links between loneliness and self-preservation behaviour (e.g. increased defensiveness). The findings show that the brain becomes hyper alert to negative stimuli, therefore decreasing sleep, increasing morning cortisol levels and blood pressure and ultimately altering gene expression (Cole et al., 2015). These effects can then increase unhealthy behaviours and lead to higher stress levels, decreased viral immunity and higher mortality rates (Luoa et al., 2012). Professor Cacioppo’s research demonstrates how complex these issues are and highlights the need to develop holistic solutions to health issues.

A roundtable discussion took place around the main theme of the conference. The aim of this discussion was to start creating an action plan on how to enhance the impact of healthy psychology on policy and practice. A number of experts from the fields of behaviour change, policy, implementation science and practice formed the panel for the round table including Professor Julie Barnett (University of Bath), Professor Mike Kelly (University of Cambridge) and Dr Vivien Swanson (NHS Education for Scotland (NES); University of Stirling). Much of the discussion was around the conflicting agendas of the different groups. Politicians in local and national government often insist on simple or quick solutions to what are often complex problems, this can be in conflict with an academic perspective and the development of a sound evidence base in a given area. Eric Sinclair, from the Stroke Association and a Non-Executive Director of NHS Grampian, gave delegates a powerful insight into an imperfect system sharing both his professional and personal experiences. In order to maximise the potential of behavioural science, health psychologists need to gain a better understanding of what policy makers want from us as a discipline. Policy makers often struggle with understanding theoretical frameworks, the evidence base and academic jargon and prefer to receive pre-digested information and case studies to demonstrate the point. In essence, as health psychologists we need to reconsider the way we interact with policy makers and endeavour to make our research and added value clearer to them. The discussion proved to be a useful reminder of why we became interested in health psychology in the first place and the importance of linking research to real-world applications to benefit our society. The discussion also highlighted how health psychology is still a relatively young discipline in the UK but that it is also one of increasing importance in addressing the growing concerns of the health of our population.

The programme was packed with symposia and oral sessions covering a broad range of research topics linked to health psychology. Most parallel sessions consisted of eight different streams; it was therefore difficult to choose which sessions to attend and receiving the full programme in advance of the conference was invaluable as it allowed time to plan which presentations to attend. Some of the topics covered included self-management interventions, pain management, stress, public health screening and immunisations, digital interventions, healthy eating, treatment adherence, an ageing population, risk behaviours, measuring well-being, social support, and behaviour change, to mention a few. The presenters came from all over Europe and there was a real energy and interest for the varied topics. There were up to six presentations in each parallel session with each speaker allocated 15 minutes including time for questions. Therefore, in some cases it was challenging for the researcher to share complex information on their study within this timeframe, in some cases leaving no time for questions from the audience. On reflection, it may have been useful to have slightly fewer presentations which would allow each speaker more time to fully explain their research and respond to the audience’s questions.

A symposium was held with presentations from leading Health Psychologists, Professor 

Sue Hazleton & Michelle Constable
Susan Michie (UCL) and Professor Marie Johnston (University of Aberdeen), and practitioners in the field, including Professor Mike Kelly (University of Cambridge) entitled ‘From theory-inspired to theory-based interventions: linking behaviour change techniques to their mechanisms of action’. There was a consensus among the speakers that methods for standardising the reporting of interventions needs to be improved and an increased recognition of the need for the systematic application of theory to the design of interventions. Additionally, the poster presentations provided further opportunities for knowledge dissemination and networking, as many of the researchers held interactive sessions to present their topic areas.

The rich academic discussion was topped off with a fantastic ceilidh at the conference dinner on Thursday evening, where there was huge enthusiasm for the ceilidh dancing and the live ceilidh music. Overall, the conference offered excellent networking opportunities throughout, and we were delighted to meet up with fellow post-graduate students that we initially met through our involvement with PsyPAG. It was great to hear about their research, PhD progress, and developments from different areas of the country as well as making new links with European colleagues.

**Correspondence**

**Sue Hazleton**  
Health Adviser working in the NHS and Health Psychology Professional Doctorate Student at the University of the West of England (UWE), Bristol  
schazleton@gmail.com

**Michelle Constable**  
Health Psychologist in Training, Public Health, Hertfordshire County Council & Professional Doctorate Student at UWE, Bristol  
michelle.constable@hertfordshire.gov.uk
References


Dates for your Diary

3–5 May 2017
BPS Annual Conference, Hilton Brighton Metropole, Brighton

13-15 June 2017
Division of Forensic Psychology Annual Conference, Mercure Bristol Grand Hotel

5–7 July 2017
Qualitative Methods in Psychology Section Conference, Aberystwyth

7–8 July 2017
Division of Counselling Psychology Annual Conference, Stratford-upon-Avon

12–14 July 2017
Psychology of Women Section Annual Conference, Cumberland Lodge, Windsor

26–28 July 2017
PsYPAG Annual Conference, Northumbria University, Newcastle

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

Psychology in the Pub events
Exeter
26 April – ‘The impact of social identity on the workplace’, Dr Kate Parkes

28 June – ‘Too much of a good thing? Theory and research on over-control and radically open-dialectical behaviour therapy’, Dr Roelie Hempel

Plymouth
16 March – ‘Should psychologists be doing more to help men and boys?’, Dr John Barry

18 May – ‘Historical perspective on psychology in Britain’

20 July – ‘Bird brains: animal intelligence and the evolution of cognition’


16 November – ‘(Some of) the psychology of swearing’, Dr Richard Stephens
### PsyPAG Committee 2016/2017

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<td>2017</td>
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<td>Maria Raisa Jessica (Ryc) Aquino</td>
<td>2018</td>
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<td><strong>Communications Officer</strong></td>
<td>Catherine Talbot</td>
<td>2018</td>
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<td><strong>Information Officer</strong></td>
<td>Claire Wilson</td>
<td>2017</td>
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<td>Celine Chhoa</td>
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<td>Tom Merrill</td>
<td>2018</td>
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<td>Division of Counselling Psychology</td>
<td>Ute Liersch</td>
<td>2018</td>
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<td><a href="mailto:ute.liersch@gmail.com">ute.liersch@gmail.com</a></td>
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<td>Division of Educational and Child Psychology</td>
<td>Celine Chhoa</td>
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<td>Division for Academics, Researchers and Teachers in Psychology</td>
<td>Charlotte Taylor</td>
<td>2017</td>
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<td>Division of Forensic Psychology</td>
<td>Andrew Duggan</td>
<td>2018</td>
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<td><a href="mailto:AJ.Duggan@outlook.com">AJ.Duggan@outlook.com</a></td>
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<td>Division of Health Psychology</td>
<td>Alison Middleton <a href="mailto:alisonmiddleton93@yahoo.co.uk">alisonmiddleton93@yahoo.co.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td>Division of Neuropsychology</td>
<td>Athina Tripli <a href="mailto:A.Tripli1@unimail.derby.ac.uk">A.Tripli1@unimail.derby.ac.uk</a></td>
<td>2017</td>
</tr>
<tr>
<td>Division of Occupational Psychology</td>
<td>Aleksandra Tsvetanova <a href="mailto:aleksandratsvetanova9@gmail.com">aleksandratsvetanova9@gmail.com</a></td>
<td>2018</td>
</tr>
<tr>
<td>Division of Sport and Exercise Psychology</td>
<td>Sean Figgins <a href="mailto:s.figgins@chi.ac.uk">s.figgins@chi.ac.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td><strong>Section Representatives</strong></td>
<td></td>
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<tr>
<td>Cognitive Psychology Section</td>
<td>Jemaine Stacey <a href="mailto:jemaine.stacey2015@my.ntu.ac.uk">jemaine.stacey2015@my.ntu.ac.uk</a></td>
<td>2018</td>
</tr>
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<td>Consciousness and Experiential Psychology Section</td>
<td>Vacant</td>
<td></td>
</tr>
<tr>
<td>Developmental Psychology Section</td>
<td>Athina Tripli <a href="mailto:A.Tripli1@unimail.derby.ac.uk">A.Tripli1@unimail.derby.ac.uk</a></td>
<td>2017</td>
</tr>
<tr>
<td>History and Philosophy of Psychology Section</td>
<td>Becky Scott <a href="mailto:Becky.Scott@hud.ac.uk">Becky.Scott@hud.ac.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td>Psychology of Sexualities Section</td>
<td>Charlotte Wesson <a href="mailto:cwesson@lincoln.ac.uk">cwesson@lincoln.ac.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td>Mathematical, Statistical and Computing Section</td>
<td>Fiona Lerigo <a href="mailto:fiona.lerigo@btinternet.com">fiona.lerigo@btinternet.com</a></td>
<td>2017</td>
</tr>
<tr>
<td>Psychobiology Section</td>
<td>Tim Eschle <a href="mailto:tim.eschle@northumbria.ac.uk">tim.eschle@northumbria.ac.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td>Psychology of Education Section</td>
<td>Joseph McCann <a href="mailto:joseph.mccann@uni.cumbria.ac.uk">joseph.mccann@uni.cumbria.ac.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td>Psychology of Women Section</td>
<td>Rose Lobban <a href="mailto:roselobban@yahoo.co.uk">roselobban@yahoo.co.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td>Psychotherapy Section</td>
<td>Roxanne Armstrong-Moore <a href="mailto:Roxanne.armstrong@sunderland.ac.uk">Roxanne.armstrong@sunderland.ac.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td>Qualitative Methods Section</td>
<td>Nia Coupe <a href="mailto:niacoupe@manchester.ac.uk">niacoupe@manchester.ac.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td>Social Psychology Section</td>
<td>Becky Scott <a href="mailto:Becky.Scott@hud.ac.uk">Becky.Scott@hud.ac.uk</a></td>
<td>2018</td>
</tr>
<tr>
<td>Transpersonal Psychology Section</td>
<td>Paul Sharpe <a href="mailto:Paul.sharpe@plymouth.ac.uk">Paul.sharpe@plymouth.ac.uk</a></td>
<td>2018</td>
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<td>Edward Walker</td>
<td>2017</td>
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<td><a href="mailto:Edd_walker@yahoo.co.uk">Edd_walker@yahoo.co.uk</a></td>
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<td>Community Psychology Section</td>
<td>Liam Knox</td>
<td>2018</td>
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<td></td>
<td><a href="mailto:Lik2@aber.ac.uk">Lik2@aber.ac.uk</a></td>
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<td>Crisis, Disaster and Trauma Section</td>
<td>Danielle Hett</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:D.Hett@lboro.ac.uk">D.Hett@lboro.ac.uk</a></td>
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<td>Roxanne Armstrong-Moore</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:Roxanne.armstrong@sunderland.ac.uk">Roxanne.armstrong@sunderland.ac.uk</a></td>
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<td>Vacant</td>
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<td>Robert Davies</td>
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<td></td>
<td><a href="mailto:robert.davies2016@my.ntu.ac.uk">robert.davies2016@my.ntu.ac.uk</a></td>
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<tr>
<td>North West of England Branch</td>
<td>John Shaw</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:j.shaw5@lancaster.ac.uk">j.shaw5@lancaster.ac.uk</a></td>
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<tr>
<td>Northern Ireland Branch</td>
<td>Blain Murphy</td>
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</tr>
<tr>
<td></td>
<td><a href="mailto:Bmurphy22@qub.ac.uk">Bmurphy22@qub.ac.uk</a></td>
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<tr>
<td>Scottish Branch</td>
<td>Kirsten Russell</td>
<td>2017</td>
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<tr>
<td></td>
<td><a href="mailto:kirsten.russell@strath.ac.uk">kirsten.russell@strath.ac.uk</a></td>
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<tr>
<td>South West of England Branch</td>
<td>Catherine Talbot</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:Ct500@exeter.ac.uk">Ct500@exeter.ac.uk</a></td>
<td></td>
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<tr>
<td>Welsh Branch</td>
<td>Michael Evans</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:EvansMS3@Cardiff.ac.uk">EvansMS3@Cardiff.ac.uk</a></td>
<td></td>
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<tr>
<td>Wessex Branch</td>
<td>Darren Britton</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:dbritton@bournemouth.ac.uk">dbritton@bournemouth.ac.uk</a></td>
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<tr>
<td>West Midlands Branch</td>
<td>Robert Blakey</td>
<td>2017</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:robert.blakey@crim.ox.ac.uk">robert.blakey@crim.ox.ac.uk</a></td>
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<tr>
<td>London and Home Counties Branch</td>
<td>Natalie Gentry</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:nwg5@kent.ac.uk">nwg5@kent.ac.uk</a></td>
<td></td>
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<tr>
<td><strong>Board Representatives</strong></td>
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<td>Ethics</td>
<td>Sarah Allen</td>
<td>2017</td>
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<tr>
<td></td>
<td><a href="mailto:sarah.f.allen@northumbria.ac.uk">sarah.f.allen@northumbria.ac.uk</a></td>
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<td>Research Board (Chair)</td>
<td>Emma Norris</td>
<td>2017</td>
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<tr>
<td></td>
<td><a href="mailto:e.norris.11@ucl.ac.uk">e.norris.11@ucl.ac.uk</a></td>
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<td>Kerry McKellar</td>
<td>2017</td>
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<tr>
<td></td>
<td><a href="mailto:kerry.l.mckellar@northumbria.ac.uk">kerry.l.mckellar@northumbria.ac.uk</a></td>
<td></td>
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<tr>
<td>Undergraduate Liaison Officer</td>
<td>Holly Walton</td>
<td>2017</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:holly.walton.14@ucl.ac.uk">holly.walton.14@ucl.ac.uk</a></td>
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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.
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- Committee members also include Practitioners-in-Training who are represented by PsyPAG.

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