Psychology and Neuroscience Student-Run Magazine

MAZE

LETTER FROM THE EDITOR-IN-CHIEF

I would like to say a huge thank you to everyone that has supported MAZE this past year. Turns out, pandemics tend to make things a little hard for magazines. With your support, however, our fundraising bake sales and promotional stands seamlessly transitioned into Teams communities and Instagram campaigns. Additionally, with the most enthusiastic and supportive team, we managed to publish two magazines that we're really proud of.

This issue has articles written by students about things that interest them, their reflections, controversial takes on topics, and their very own research. Therefore, this issue is dedicated to students. It is dedicated to you. You got through the unpredictability of this academic year as best you could. You studied, slept, socialised, and survived in your bedroom through what are supposed to be the 'best years' of our lives. You reached out to others via online zoom calls and immersed yourself into online learning. I hope this issue of MAZE is an informative and interesting read for you.

On a personal note, it has been an honour to witness the growth of MAZE in so many different ways. It has given the committee and me a sense of purpose in the face of uncertainty. Thank you for keeping MAZE - and us - going. Going forward, I'm really excited to see what the new team comes up with next semester! Please feel free to leave us some feedback at mazemag@st-andrews.ac.uk, we're always happy to hear your thoughts.

Happy reading,

Tahira
Editor-in-chief

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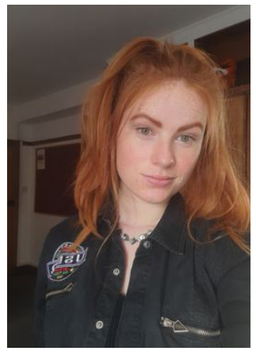

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MEET THE TEAM

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CONVERGENCE

My section 'convergence' is an invitation for students from subjects outside of Psychology to write for MAZE and explore their degrees through a psychological lens. It promotes an engaging platform for students to evaluate the intersectional relationship between the world and the human mind. It allows them to further understand their subjects and Psychology in a deeper, more liberal sense. The first article in the section explores the link between the conscious and unconscious in creative pursuits, the author even proposing their own definition to the word creativity. The second article analyses Dissociative Identity Disorder Tripartite Structural Model of Personality in Robert Louis Stevenson's, The Strange Case of Dr. Jekyll and Mr. Hyde. Editing for this section this year has been such a fulfilling and fun experience and I hope everyone enjoys the writers' creativity and hard work as much as I did!

Sidney More

Class of 2023

Tzvetelina Ignatova. University of St. Andrews. Class of 2021.

CREATIVITY AND THE UNCONSCIOUS

INTRODUCTION

Imagine how having dedicated his life to mathematics, as if from nowhere, Jules Henri Poincaré comes up with the idea to write Hamlet. Better yet, imagine street artist and political activist Banksy being illuminated with the solution to physics' most devious problem—quantum gravity.

While I have a healthy disrespect for the impossible, these scenarios seem improbable to me. Why? Because for a creative thought to hit you out of the blue, it is necessary that you have already mastered sufficient skills and knowledge, which can help you recognize, nurture and polish the idea.

Today, creativity is a word used by many and abused by some. Still, what exactly is it? The standard definition proposed by cognitive scientist Margaret Boden is "the ability to come up with ideas or artefacts that are new, surprising, and valuable." But what of its relation with the unconscious? In the realm of philosophy the contribution of the unconscious to creativity, if one agrees that there is one, seeds a common confusion which robs the agent of applause. If one is not truly in charge, then why deserve the merits of the creative outcome?

I would like to propose an alternative definition, one which entails the link between the two, that creativity is the dance between the conscious and the unconscious, where an invisible thread binds them so they can feed each other. Let me tell you why I think that the role of the unconscious need not strip one from her merits, no matter whether creativity comes through her or from her. Because for a creative outcome to blossom out of nowhere, it is necessary that one does all the hard work prior to and after the illumination.

"Chance favors the prepared mind."
- Louis Pasteur

THE ROLE OF THE UNCONSCIOUS

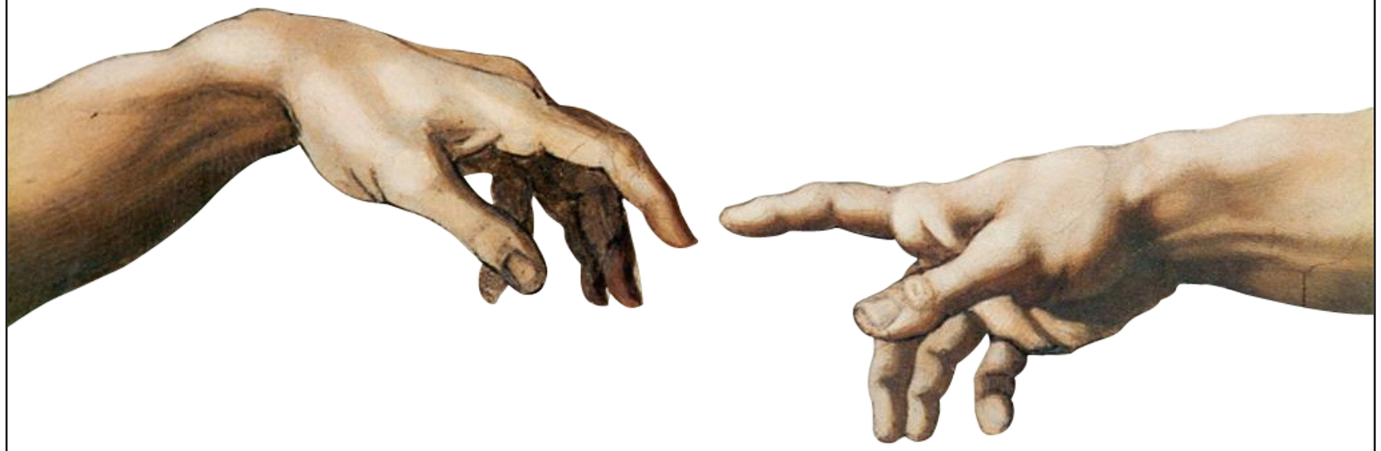
The first clue that hints at the role of the unconscious in creativity is hidden in the language we curate. Notice the words we use to express the infamous 'a-ha' moment! When we say 'as if from nowhere', we agree (subconsciously?) on the need to extinguish the conscious process. This means that prior to the moment of illumination, there has been no conscious work focused on the subject of matter. One such distraction may lead to set-shifting, which can clear the conceptual workspace from misleading clues, and allow for a fresh and unbiased process.

But where is nowhere? Moreover, if nowhere is the unconscious, who inhabits it? I say who, because for centuries (that is, before Freud) the unconscious incubation period of creativity has been synonymous to the muses, daemons, genius, and green absinth fairies. Today, with the advent of science, the process has been demystified to an ordinary cognitive one. No more than strengthened connections between neural cells and cell assemblies, the unconscious is when the initially conscious and focused activity transforms into a somewhat automated one. Nevertheless, one would experience great difficulty in providing an answer to the question without provoking howls of protest.

Often people use the same word, referring to different things. The term, it seems, is ripe for confusion. The psychoanalytic tradition refers to the unconscious mind precisely as a mind, an intentional agent. But for someone bound to the Platonic notion that creativity is an unworldly thing, the unconscious remains a mysterious present box. Be it magic or method, the first thing undisputable is that it exists. The second, is that it needs the cooperation of the conscious. For the creative process is a never-ending dance, during which the two interchange the leading role. There are many cases of ideas that come to us, disguised in genius, which after consideration, we consciously let go of. Surely, some brilliant ideas come to us in a conscious state as well. And it seems like such a variable quality of ideas requires coordination.

THE METHOD

"My muse labours, and thus she is delivered."
- Shakespeare



But if as philosophers we agree that the time of the muses is long gone and accept the scientific stance that our brain is working for us, we face a different problem. Since the neural paths seem to be under one's own copyrights, they hardly pose any threat to the claim that one can shamelessly take credit for their creative activity. The problem here is that creativity per se may be stripped from its standard definition of being something new and of value. If one's unconscious cannot search for what one does not know (for something new), then how can there be anything truly novel?

Still, can we close our eyes to that which is evident – brilliant, new and valuable ideas have been presented to the world? And it is precisely the "to the world" part, which is key here. Creativity can be made compatible with determinism if we accept that an idea could be determined, but it still has to become and actualize itself in this world. To an extent, it could be similar to the birth of a baby. For nine months it is there, determined in the womb of the mother. Yet, we cheer it's becoming a human only after the grad appearance it makes in this world. The moment of illumination might as well be a moment of remembering the future.

THE MAGIC

Whether or not you can call forth the muses, effort is in order, since hardly any illumination is a complete creative outcome. The unconscious spark is only a comma in the process, as it takes a bundle of virtues to bring it to an end.

Shakespeare admitted his work was that of his muse, yet he is as praised for his creativity, as only a handful of people are. How come rather than emphasizing the hard work behind the creative outcome, both artists and scientists have stressed the intervention of the mystical? Could it be because no hard work can out credit the significance of being the chosen one? If the Gods know best, who are we to strip that merit from those touched by the divine?

I suggest that the muses may be the force, but no force could be tamed by someone unworthy or unskilled. Only a master can do the job. Great insights come as uncut gems and only a craftsman can transform them into jewels that withstand the force of time.

CONCLUSION

It is preferable to remain skeptical about the proper definition of the unconscious, be it magic or method. Yet, when our conscious takes a break, our "unconscious thought ventures out to the dark and dusty nooks and crannies of the mind". Artists and scientists go to those dark places and send us valuable and novel dispatches. For that courage, and for the necessary input prior to and after the infamous "aha" moment, I suggest that they deserve to take credit for their activities.

UNDERSTANDING DISSOCIATIVE IDENTITY DISORDER THROUGH

THE STRANGE CASE OF DR JEKYLL AND MR HYDE

Kaizerine Zubbair Aria. University of St Andrews. Class of 2023.

Have you ever been told to bring out the Dr Jekyll side of your personality, and banish Mr Hyde?

No? I haven't either, but we all have two sides to our personality - a lighter side that is exposed to the world, and a darker one, which is often hidden away. The Jekyll-Hyde analogy is a quintessential example of Dissociative Identity Disorder (DID).

Previously known as Split Personality, or Multiple Personality Disorder, DID is 'characterized by the presence in one individual of two or more distinct identities or personality states that each recurrently takes control of the individual's behaviour.' These 'alters' can have different names, preferences, behavioural patterns, moods and may even dress differently. It is simply a complete contrast to the primary personality (Psychology Today), and a 'disruption of identity,' accompanied by recurrent gaps in the recall of everyday events, personal information and/or traumatic events. (American Psychiatric Association, 2018).

The Strange Case of Dr Jekyll and Mr Hyde, written by Robert Louis Stevenson, is a story that begins with exploring the theme of the duality of human nature. Dr Henry Jekyll, a kind-hearted, intelligent, and respected scientist, believed that every individual has a good and evil side, and there is a conflict on what side will prevail in the 'field of consciousness.' He experimented with creating a potion, which would suppress the evil soul. When he drank the liquid, it almost immediately affected him. However, it went terribly wrong. He transformed into the animalistic and wicked Edward Hyde (Stevenson, 1886). Throughout the story, Jekyll transformed back and forth between the two personalities.

Jekyll and Hyde have become names synonymous with DID. However, Stevenson's characters also manifest features of the Structural Theory of the Mind. Freud's theory postulates that the psyche is structured into three parts- the ID, Ego, and Superego, which all develop at different stages in life. Hyde represents the ID, the instinctual component, which operates on the 'pleasure principle,' meaning that he seeks instant gratification (McLeod, 2019). Hyde has an aggressive and violent streak, with no morals whatsoever. He erupted into a fit of rage, stamping his foot, brandishing his cane, and carrying on like a lunatic (Stevenson, 1886).

Jekyll is the Ego, the rational, and decision-making part, which follows the 'reality principle,' and operates according to societal rules and norms. Freud stated it is 'that part of the id which has been modified by the direct influence of the external world,' and hence, has a difficult time balancing the demands of the unreasonable, tumultuous Id, and the Superego, which is your moralistic, ideal self. Your conscious, equivalent to the ego, makes you feel guilty if you give in to the Id's unrealistic demands. The idyllic balance is that the Ego figures out sensible ways of satisfying the Id's demands, often having to compromise or delay gratification to prevent negative societal repercussions (McLeod, 2019).

Dr Jekyll initially finds enjoyment and pleasure in being Mr Hyde. After the transformation, he 'felt younger, lighter, happier.' He describes the manic episode as something 'incredibly sweet.' It was a release from the shackles of responsibility and duty, and a mysterious but not an innocuous freedom of the soul (Stevenson, 1886). His mentality is different, but so is his body, which is grotesque, misshapen and shorter in height. As a result, he believes that he can experience the pleasure that both parts of his being crave, without being hampered by the desires of the other (Singh and Chakrabarti, 2008). However, when his alter ego turns into a sociopathic murderer, he wants to be done with that identity. The issue was that even without the potion, Jekyll was transforming into the dominant Hyde, and had no control over him.

The development of DID could be explained via Freud's Tripartite Structural Model of Personality. Stevenson's main character had a hard time mediating between the Id and the Superego, which was portrayed 'by the proclaimed and implicit morals of Victorian society' that took pride in sophistication and virtue. Civilisation was taken aback by the apparent nonchalance and indifference with which Edward Hyde 'indulges in his debaucheries' (Singh and Chakrabarti, 2008). He is confronted by his good 'Jekyll' side, who embodies the sensible and logical part of his mind, and the evil 'Hyde' side, who inhabits his secret, intense and darkest fears and desires (Cahya and Margawati, 2018). The premise is that the Id and Ego are in conflict, which leads to a DID diagnosis. Another indication of this disorder is that, despite sharing a body, Jekyll and Hyde presented themselves as two completely different individuals. People with DID experience similar symptoms.

In the end, Hyde had become too powerful, but still needed Jekyll to survive, so the latter killed himself, putting an end to the sinfulness and struggle.

Stevenson's story has psychoanalytic roots, and Dissociative Identity Disorder can be seen as a metaphor for the Id and the Ego. According to this, the development of the personality disorder is a result of an intrusion of the powerful instinctual drives at the core of the psyche (Cahya and Margawati, 2018). In other words, the Id began to dominate his being.

Jekyll faces a struggle in his unconscious mind. He felt inhibited by the societal rules of his time, and Hyde was almost like his vice, an outlet for the expression of his impulses. Hyde was not a separate entity. He lived within Jekyll and was embodied the 'Id' side of his personality. Jekyll was the ego, his primary identity. He himself admitted to this duality, stating that the two natures were at odds in his field of consciousness, and he was 'radically both' (Stevenson, 1886). This struggle is the basis for DID.

Stevenson's story is multifaceted and stimulating. It is not only a Victorian literature classic but can also play a major part in scientific reports, lending valuable knowledge to the discipline of Psychology and understanding its various theories. Literature and Psychology are two interrelated disciplines. Psychology is the study of human behaviour and emotions, and literature depicts these attributes through fictional characters. The Strange Case of Dr Jekyll and Mr Hyde is a perfect representation of this association. As long as human beings are the theme of the text, psychological elements will be ever-present in literature pieces, taking us on a journey deep in to the human soul. (Emir, 2016).

CONTROVERSIAL

Once again, “controversial” brings to you our writers’ takes on the most exciting debates in Psychology & Neuroscience! This time Ana explores the problem of over-diagnosis, while Harriet delves into the controversy of IQ testing.

Tini Gabashvili

Class of 2022

GENUINE EPIDEMIC OR FAULTY METHODOLOGY?

OVERDIAGNOSIS IN PSYCHOLOGY

Ana Julia Ferrera. University of St Andrews. Class of 2023.

In recent years a large debate has surfaced about a supposed overdiagnosis crisis in psychology, with many experts displaying extreme worry about the future of a population in which regular emotional responses are pathologized. Overdiagnosis has been defined as "the application of a diagnosis based on agreed upon standards to a person who cannot benefit from the diagnosis and who may be harmed," which, in the case of mental illnesses, is not necessarily the matter of someone not experiencing any symptoms, but rather experiencing mild ones that are considered average responses to adverse life events and that would improve naturally without any intervention (Thombs et al., 2019). The debates concerning overdiagnosis in psychology stem from the fact that there has been a significant increase in the number of people diagnosed with various disorders in the recent years. For instance, in children the frequency of diagnosis of Bipolar Disorder has increased 40-fold in the last two decades (Gray, 2013), and that of Attention Deficit Hyperactivity Disorder (ADHD) has increased by 41% in the last ten years (PLOS Medicine Editors, 2013).

Perhaps what is most worrying about these statistics is what they mean for people who have received a diagnosis for a disorder that they do not have. It is not an unknown fact that those who suffer from mental health issues are discriminated against and stigmatized in virtually all areas of the world. Thus, by labelling them with a needless diagnosis doctors are essentially putting patients in adverse situations unnecessarily (PLOS Medicine Editors, 2013). Furthermore, there is a distinct lack of mental health support and resources available in many places, and thus an overdiagnosis crisis could result in the few resources available being directed away from those who truly need them. Lastly, and perhaps most dangerously, a diagnosis is often accompanied with a treatment plan which likely involves the use of psychotropic drugs. A large majority of such medications, however, have very severe side effects. Thus, taking them unnecessarily is never advised and can cause a lot of distress to the patient (Thombs et al., 2019).

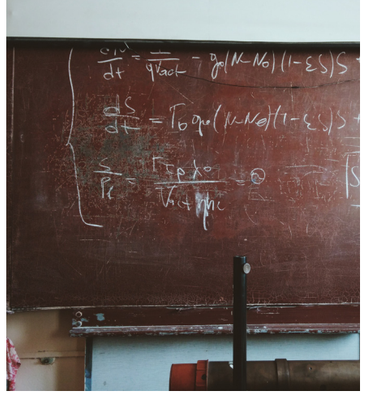
Yet, are the previously mentioned statistics a matter of overdiagnosis, or are they merely a reflection of decreased stigma and improved diagnostic criteria? This is a good question, so great in fact that experts don't seem to be able to arrive at a decisive answer. Those who believe that we are currently in an overdiagnosis crisis often place the blame on the so called "bible" of psychiatry: the Diagnostic and Statistical Manual (DSM). This manual contains all known psychiatric disorders and includes the symptoms that a patient should exhibit and for how long they should be present for in order for them to be diagnosed with each illness. The DSM has been largely criticised on the basis that it is used as a checklist rather than as a guide, and leads doctors to not take larger life events into account when coming up with a diagnosis. Further, critics worry that each new edition of this manual inflates the incidence of diagnosis by adding new disorders and symptoms and thus pathologizing more and more everyday feelings and emotions (Haslam & Fabiano, 2020).

A study by Rosenhan clearly demonstrates the shortcomings of this method of diagnosis. In it, 8 mentally healthy participants were admitted into 12 different mental institutions by claiming that they were hearing voices. This was the only symptom they claimed to have, and once they were admitted they completely stopped reporting any symptoms.

All but one of these pseudopatients was discharged after an average of 19 days with a diagnosis of schizophrenia in remission (Rosenhan, 1973). This shows the flaws in the methods employed in such institutions, as an otherwise healthy participant with only one abnormal symptom should not have been admitted nor diagnosed with this disorder. Similar findings have been shown in a study at the Johns Hopkins University where it was found that half of the patients referred to their Early Psychosis Intervention Clinic with a diagnosis of Schizophrenia did not actually have the disorder, and those most likely to receive this false diagnosis were those who claimed to hear voices (Thompson, 2019). In the words of Russell L. Margolis, professor of psychiatry and behavioral sciences, "hearing voices is a symptom of many different conditions, and sometimes it is just a fleeting phenomenon with little significance" and "when someone reports 'hearing voices' it may be a general statement of distress rather than the literal experience of hearing a voice," thus this symptom on its own should not lead to a diagnosis of Schizophrenia (Thompson, 2019). Perhaps these examples and the criticism of "checklist psychiatry" don't show an issue with the diagnostic criteria but rather with the people who employ them and see the DSM as all-knowing, a sentiment expressed by Joel Paris (as cited in Freckelton, 2015).

In order to evaluate whether the DSM is really as defective as its critics state, Haslam and Fabiano conducted a study in which they compared rates of diagnosis for different disorders across different editions of the DSM so as to establish whether there really has been a diagnostic inflation. They found no consistent evidence of such inflation. The disorders in which it was found were ADHD, Autism Spectrum Disorder (ASD), several eating disorders, and Generalized Anxiety Disorder (GAD). The researchers then concluded that "worries about growing over-diagnosis or over-medication should focus on particular disorders for which diagnostic inflation can be demonstrated, rather than seeing these as rampant and systemic" (Haslam & Fabiano, 2020). Furthermore, defenders of the DSM state that critics are overly alarmed and that there is no overdiagnosis crisis going on. For example, Dr. Carl Bell stated that "all the good epidemiological studies unfortunately show that one in five people have a psychological disorder. ... They're prevalent, they're just all over the place, and that's very disturbing to some people" (Gray, 2013). Similarly, it has been claimed that broadening definitions of illnesses allows doctors to address and help patients suffering from problems that were previously neglected, which undoubtedly brings about many benefits (Haslam & Fabiano, 2020).

Overall, it is difficult to know whether the increased rates of diagnosis of mental illnesses are due to genuine epidemics or to faulty diagnostic methods and criteria. Psychology and psychiatry are new disciplines at their beginning stages, and doctors are still trying to come up with the most appropriate methods for diagnoses that won't result in such controversy. For right now, it is important to educate doctors on the limitations of currently praised methods, as well as to encourage patients to get their diagnoses confirmed by multiple professionals. It has also been suggested that a doctor should monitor patients for some time to see if symptoms persist before finalizing their diagnosis (Thombs et al., 2019), which I believe is the best way to get around the issues that I have highlighted. It is most important that we all acknowledge that the field we love has shortcomings, and doctors must accept the fact that they do not know all of the answers yet.



Harriet Isherwood.
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THE CONTROVERSY OF REPRESENTATION IN INTELLIEGENCE QUOTIENT [IQ] TESTING

The adequacy of an Intelligence Quotient [IQ] test that works across diverse cultural contexts has been subject to ongoing debate. Intelligence research is not monolithic, and researchers vary in their view on intelligence testing- with some favouring a g factor view of intelligence, and others endorsing a specific abilities view (Rinderman, Becker & Coyle, 2020). However, the viewpoints of experts on intelligence tests have been correlated to their backgrounds and political orientation (ibid.). This raises one issue with the bias of intelligence research. Another issue is how traditional identification methods of 'gifted' students have continually underrepresented Black, Hispanic, and Native American students (Hodges, Tay, Maeda & Gentry, 2018). Ability and potential may be masked by socioeconomic and cultural factors which do not fit standardised testing (ibid.). Furthermore, a social context factor has been found in factor analyses using participants with Autism Spectrum Disorder [ASD] in certain IQ tests (Clements, Watkins, Schultz & Yerys, 2020). Research into intelligence, therefore, has controversially underrepresented and overlooked those who are not white, neurotypical and skilled at standardised tests. Standardised tests could adapt to factor in these limitations, or demographically relevant IQ tests could be created- this article will consider the realities of standardised testing and suggest why demographically relevant IQ tests help avoid such consequences (Shuttleworth-Edwards, 2016).

Shuttleworth-Edwards (2016) highlighted in their commentary on IQ testing that 'true' and 'measured' IQ should be seen as distinct concepts. If this is the case, can IQ tests truly represent intelligence? The commentary highlights within-test errors, such as variations in test-taking conditions, and between-test errors, like results varying due to systematic differences among IQ tests, that occur in intelligence research (Shuttleworth-Edwards, 2016). These discrepancies become more complicated in non-western contexts, where primary languages do not match the language of the standardised IQ test for instance (ibid). All of these findings seem to illustrate the issue of standardisation in multicultural settings. However, research has suggested that the Wechsler IQ test produces similar results across cultures, and population-based, South African standardisations of the test have not yet yielded clinically viable results (ibid.). Thus, the controversy of standardisation is not a simple one.

> A g-factor view of intelligence refers to the investigation of 'general intelligence'by summarising positive correlations among different cognitive tasks (Wikipedia, 2021).

Nevertheless, the underrepresentation of Black, Hispanic, and Native American students in American 'gifted' programmes due to traditional methods of intelligence identification is an undeniable issue with severe consequences for the opportunities of minority groups (Hodges et al., 2018). Historically, white and Asian students have been 66% less likely to be underrepresented in American 'gifted' programmes (ibid.). Socioeconomic and cultural factors may contribute to grade and performance discrepancies in standardised tests for culturally, linguistically, and economically diverse [CLED] students (ibid.). Non-traditional methods of identification are more novel, and can include nonverbal tests or student portfolios, which could better identify underrepresented CLED students, but Hodges. et al.'s meta-analysis shows that to address inequities, better identification methods are needed (ibid.). Black and Hispanic students are still underrepresented in 'gifted' programmes using nonverbal intelligence identification methods, and denying any child or student the opportunity to be challenged academically is an injustice (ibid.).

Another concern of standardised intelligence tests is ableism. The second edition differential abilities scale [DAS-II] can be used to assess intelligence, for instance in those with ASD but the DAS-II model was developed on a neurotypical sample (Clements et al., 2020). This raises an issue with the lack of inclusion in the development of these tests. Clements et al. (2020) did find that, using the DAS-II tests, autistic children did similarly to children from a neurotypical sample on

verbal and nonverbal intelligence, but not on spatial intelligence. So these tests can measure some aspects of intelligence for neurotypical and autistic children accurately, but the interpretation of these tests should take into the account the discrepancies of measurement for spatial intelligence. Factor analyses on these sorts of IQ assessments should continue to occur to highlight potential testing bias.

An interesting aspect to the debate on whether standardised or specific abilities views of intelligence should be adopted is the background and demographic of researchers. Rinderman et al. (2020) reviewed the background of experts, examining their position on intelligence research in association with factors like their nationality, gender, or political orientation. It was found that experts who were male or identified as right-wing were more likely to endorse the validity of IQ testing and political orientation was the most important variable in explaining viewpoints (Rinderman et al., 2020). Those who identified as more left-wing were more likely to support a specific abilities view of intelligence, assume environmental influence in Black-White IQ gaps, assume bias in IQ testing and be against IQ testing in immigration policies than those who identified as right-wing- who typically endorsed the opposite arguments (ibid.). Notably, experts with PhDs showed a more 'progressive' viewpoint, favouring environmental explanations for the Black-White IQ gap and rejecting the use of IQ tests in immigration (ibid.). The fact that those more esteemed in their psychological fields typically take the more 'progressive' view suggests that standardised intelligence testing needs to be reconsidered in some capacity.

Finally, I want to address the implications of the debated approaches to intelligence testing. It is important to highlight how education should be driven by students. Education should address the diverse needs and abilities of students, and educators are morally bound to their students to provide challenging educational opportunities (Hodges et al., 2018). This can include providing access to 'gifted' programmes, and as definitions of 'giftedness' can be considered to include children who show talent in any one area, standardised tests which only address exhibited talents in particular cognitive abilities don't include a variety of capabilities (ibid.). The most important implication of the debate on standardised IQ tests is the issue of underrepresentation and the bias of intelligence identification. Denying students services, opportunities, diagnoses and the proper representation of their capabilities is something psychological methodology needs to address. The gaps in IQ test results and representations of 'giftedness' may take years to change, but researchers and educators should seek to address these issues, as the stakes are high for those who are misinterpreted and misrepresented (Hodges et al., 2018; Shuttleworth-Edwards, 2016). Methods that are controversial should be addressed and changed to better represent and assess everyone.

WHY PSYCHOLOGY?

The maze of adulthood can be difficult to navigate - especially as Psychology students. From detective to life coach and everything in between, Psychology is such a diverse subject that people often don't know what to do with their degree. Why Psychology? aims to give direction to Psychology students by presenting and exploring different stories behind the academics we interact with every day, to see how they have navigated through the maze of life, and to answer the question, "Why Psychology?"

Cyrus Chu

Class of 2024

By Cyrus Chu.
Edited by Ronnie Ben-gal.

GIDEON SALTER

Psychology from a Linguistic Perspective

A NEW CHAPTER

Gideon started off studying linguistics in UCL, and quickly gained a newfound interest in pragmatics – the inference of meaning and the decoding of words and contexts behind every sentence. He realized, though, that for him the best way to study pragmatics is working with children through the lens of developmental psychology and examining joint attention in infants.

Through his research, he came across a chapter of a book by Prof Malinda Carpenter describing how communications and shared experiences tie research together. It was this chapter that encouraged him to do research with Dr Carpenter's supervision, in order to tie infant communications into more abstract theories and linguistics, leading to where he is now – a final year PhD student researching developmental psychology and the origins of joint attention.

On the surface, Gideon's reason for doing a PhD in Psychology seemed clean and polished. A PhD packaged everything he wanted to do in a neat package – he enjoyed the process of researching and dissecting a niche topic, participating in discussion groups, and the cycle of reading and writing papers, which makes up the brunt of PhD work. In reality, however, things were much more sudden and uncertain. Even though there were a myriad of variables concerning funding, Gideon's decision to do a PhD was affirmed by the birth of his first niece. It was then when he saw his theoretical interest come into his personal life, and it was then when his interest really ignited his career in academia.

Perhaps the largest adaption subject wise for Gideon was the acquisition of different "tools" in experimental design in developmental psychology that linguistics lacks. Even though he has spent a great deal of time studying abstract and theoretical works with adults and complex conversation, these theories are punctured by simply interacting with a baby and understanding what their communication involves. Simply put, these tools help address broader, more theoretical topics that are normally out of reach for those studying linguistics.

"Linguistics is all theory but no data, but psychology is all data but no theory. It's a huge exaggeration, and there has been change over the years, but there's still some truth in that."

CAREER AS A PHD STUDENT

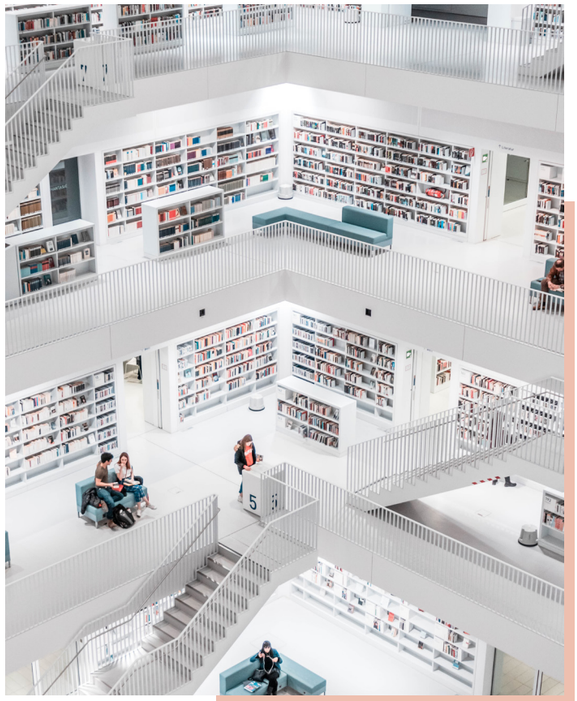
There is no "typical" day of working as a PhD student – days can vary from academic work like thesis writing and data analysis, to engagement like attending a talk in Dundee, to talking about theoretical interests over coffee with a friend.

Despite the variety and interesting work in transitioning to a PhD, transitioning from a master's degree to a PhD is no easy feat. Besides the uncertainty behind contacting potential supervisors and securing funding from sources like the ESRC and scholarships, the cycle of homework and exams in undergraduate and master's degrees is replaced with free reign over your own large project that will require years to complete. A PhD is so uncertain and far into the future that it's hard not to lose sight of the original goal.

"For me, a PhD wasn't just an abstract academic process. Even though I had this theoretical interest in infant communication, it was also a personal interest. My amazing first niece was born during my Master's, and suddenly babies were a real part of my life."

Moreover, Gideon's personal involvement has proven to be a double-edged sword – on one hand, spending time and effort on his work never feels tiring or arduous due to his passion and personal connection to his interest. On the other hand, his PhD work is so tangled up in his identity especially because it's so personal, which makes finding an appropriate work-life balance difficult. Even

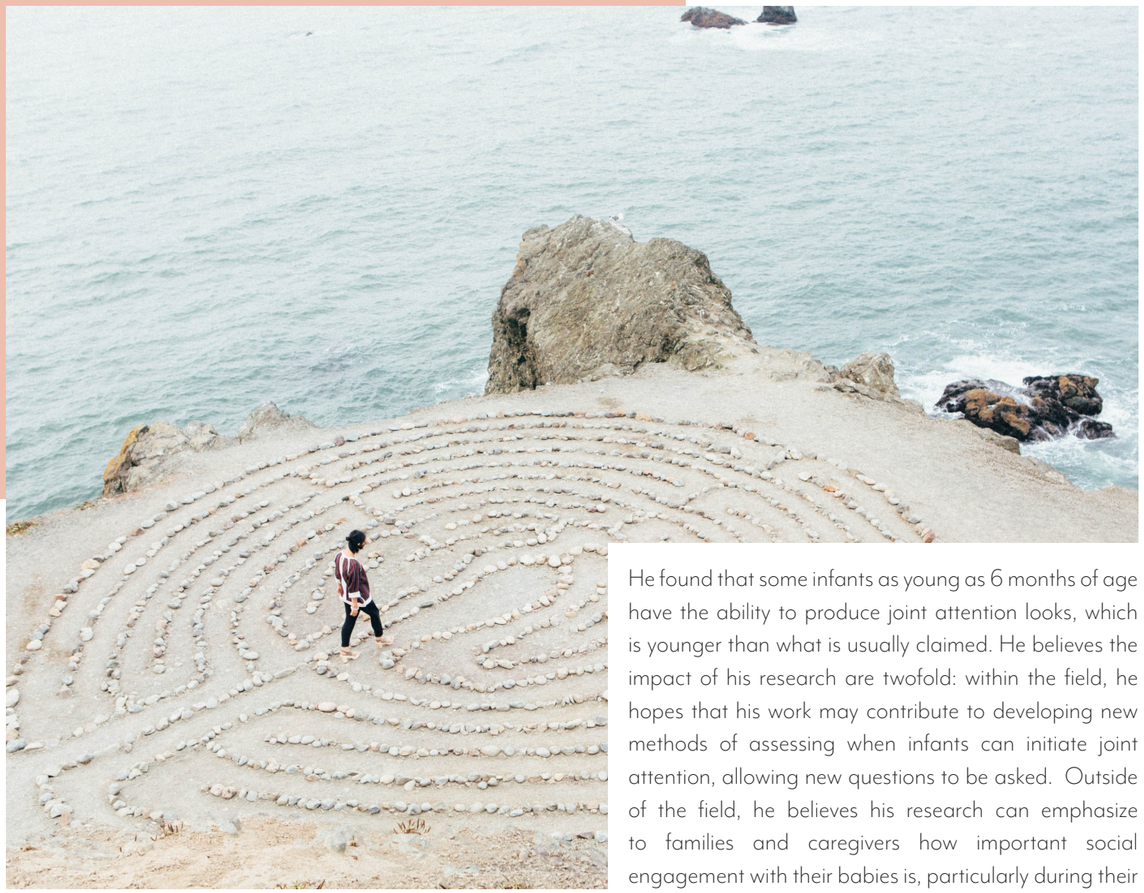
A PhD wasn't just an abstract academic process. Even though I had this theoretical interest in infant communication, it was also a personal interest. My amazing first niece was born during my Master's, and suddenly babies were a real part of my life.



though passion is necessary to power through the 4 years of being a PhD, he thinks it's necessary to draw a balance between the PhD and the rest of your life just so he doesn't feel guilty taking a break once in a while

What makes it worth it, however, are the opportunities to engage people with his research as well as being able to freely express his ideas freely, be it through research or talking with other people. This is the main reason why he has been especially interested in increasing public engagement on his research.

Starting from 2019, Gideon has helped run ABC Communities and the ABC Baby Bee, which are projects aiming to support families with babies in Fife. These projects have since helped increase mothers' confidence and connection with their children, while boosting lackluster research participation within developmental psychology. This is difficult especially in St Andrews where the nearby population is sparse (Brand et al., 2019). This works in tandem with other modes of engagement Gideon takes part in, including talks in primary and secondary schools, helping Dr Carpenter in Netflix's show Babies, as well as writing a paper on public engagement itself, which is due to be published later this year.



He found that some infants as young as 6 months of age have the ability to produce joint attention looks, which is younger than what is usually claimed. He believes the impact of his research are twofold: within the field, he hopes that his work may contribute to developing new methods of assessing when infants can initiate joint attention, allowing new questions to be asked. Outside of the field, he believes his research can emphasize to families and caregivers how important social engagement with their babies is, particularly during their first year of life.

He is also working on a book titled "Liturgy and Shared Situation: A Psychology-Engaged Theological Perspective". The book is a collection of interdisciplinary papers concerning shared experiences and joint attention in religion. Rituals and shared experiences are the core of human experience and community life – which is why the book aims to understand why and how people gather together to engage in shared religious practices, while engaging with a conversation in psychology, theology and philosophy. Articles delve into topics such as how prayer relates to joint attention, and how memory is used in the context of rituals.

RESEARCH INTERESTS

Joint attention is a "meeting of minds" – the shared attention of two people on an object. Joint attention influences everything from language development to social learning, and is one of the most important skills in human social cognition (Siposova & Carpenter, 2019). It has been 40 years since joint attention was introduced (Bruner, 1974), yet there are still numerous debates regarding its definition and emergence. For example, does joint attention develop during the "9-month revolution" – an important landmark in human development, or is it developed earlier (Rossmanith et al., 2014)? Is joint attention based on communication, or is it the basis of communication (Carpenter & Liebal, 2011)?

Gideon's research is on understanding the developmental origins of joint attention and communication. He is researching this through a longitudinal study on six- to ten-month-olds, and uses different stimuli to elicit "joint attention looks", which represent triadic joint attention between the infant, the experimenter and the stimulus.

FUTURE ASPIRATIONS

Gideon would like to continue with academia in the future, though he is unsure what the future holds for him. The constant battle for funding means that researchers must continually justify their own existence, and the "publish-or-perish" culture in academia often means that flashy research is often preferred. Researchers are often under pressure to publish as much as they can in high impact journals, rather than more methodical research, which is exemplified by the fact that universities hire staff through their metrics and research list, rather than their ability to teach (Abbott et al., 2010).

However, academia isn't the only way forward for PhD students, a notion that, while often touted by academia itself, couldn't be further from reality. The skillset cultivated from doing a PhD, including critical thinking and writing skills, is extremely valued in the field of business, consulting and law.

As to where Gideon thinks where the future of research is headed, he believes public engagement will be more and more essential in the future. A fundamental goal of research is to draw links to its impact. For example, the Research Excellence Framework (REF), the main determinant of the allocation of public funds for universities in the UK, lists the demonstration of research impact as one of its major criteria (REF2021, 2020). Other research bodies, such as the European Research Council (ERC), have also emphasized the importance of impact and outreach in research (ERC, 2019). The increasing emphasis on engaging with the public is why he predicts the ability to engage others in research will become a fundamental part of a researcher's toolkit in the future.

For some potential future PhD researchers, however, the primary deterrent is often not what a PhD has in store for them, but how to be qualified enough to look into getting a PhD, especially since universities are more "hands-off" regarding careers and opportunities. The key is to connect with postgrads – find opportunities to volunteer and shadow PhD students. Even though the pandemic has impacted social opportunities, PhD researchers are more than welcome to talk to undergraduates about their passion project.

For most people, the answer to "Why Psychology?" is because they want to engage with more popular fields of psychology, like clinical psychology or neuroscience. Few people gain an interest in psychology through developmental work, fewer would dedicate a PhD to it, and fewer still approach it from a linguistic perspective. Gideon's remarkable synthesis of the linguistic and psychological approach to developmental psychology certainly made his answer to "Why Psychology?" special.

"ITS THE RIGHT THING TO DO."

SOPHIE HARROWER

By Cyrus Chu.
Edited by Ronnie Ben-gal.

DO

THE RIGHT THING T

Sophie originally planned on becoming a biology teacher in a high school after graduation. She loved working with young people during her time as an undergraduate, and teachers were in demand, meaning stable work for the foreseeable future. However, something wasn't right – she knew high school teaching was logical and practical, but she just wasn't convinced that she wanted to teach in a high school at all. So, even though she had no future set out for herself, she cancelled every interview she had a week before her dissertation was due, and instead decided to pursue a PhD. This certainly seemed like an irrational decision on the surface, especially considering her background. However, for her, it was the right thing to do.

Going to St Andrews and getting a PhD was not an easy journey, especially as she felt out of place physically, academically and socially. Physically, she was affected by her dyspraxia, which impacted her coordination and short-term memory. Academically, she didn't have stellar grades, and she thought she wasn't capable of doing a PhD, even though she had a passion for research. Socially, she didn't come from a prestigious background – she was the first in her family to attend university, and although St Andrews has done much to widen access and participation in education, she just didn't seem like someone who would do a PhD, especially since it wasn't as practical as teaching. She felt like it was "the right thing to do", but she doubted herself every step of the way. However, she was motivated and passionate, so despite her fears she dove in and applied anyway.

She was motivated to pursue a PhD and found her interest because of one particular lecturer – Dr Manon Schweinfurth. Dr Schweinfurth's work is on evolutionary theory and reciprocity, and although it was beyond the scope of undergraduate biology courses, Sophie was curious about the topic enough to do research on Dr. Schweinfurth's work independently. Moreover, Sophie enjoyed many aspects of academia, and, as she realized during a conversation with a friend, she had lots of ideas for future projects. This led to her decision to switch from a career in teaching to one in academia - she went on to do a master's in evolutionary and comparative psychology, then moved on to a PhD.

PRESENT WORK

Working as a PhD student comes with its benefits. Sophie thinks the best aspect of academia is learning. Learning is present in basically every aspect of work – learning about her research field, learning how to analyze data and presenting the data to different audiences, even learning how to animate on an iPad for a talk. What's more interesting to her, though, is the creation of knowledge. By having the freedom to act on her ideas through designing and running her own experiments, she is essentially finding new information about our world by answering questions, which in turn opens up more questions that she can answer. She never feels like she's "pigeonholed" by her work, even if her field of study is considered niche by some.

That is not to say that there aren't any struggles when doing a PhD. Even though it's very necessary, the administrative side of research is often not as interesting as the research itself. Additionally, the pandemic has taken a toll on Sophie's social life – being a part of the postgraduate community can be isolating, and she hasn't felt like part of the postgraduate community because of the lack of social events as of late. This has started to improve recently, however – she is getting more and more opportunities to socialize ever since she moved back into her office.

However, Sophie still loves what she does as a PhD student. Besides all the learning and paper writing, she has to obtain funding and ethical approval, which includes coming up with proposals for experiments, working with the rats in her lab, and designing experiments in accordance with the university ethics committee. She also demonstrates for psychology undergrads and works on many different outreach programs, from participation in one of the school's Ask an Academic sessions to working as a member of the social media team for the Animal Behavior Collective, which aims to "level the playing field" financially for PhD students studying animal behavior by providing "microgrants" to those who have less access to funding for travel and conferences.

"We are working on the edge of human knowledge. That's what makes it hard – there often isn't a defined right or wrong answer or an exact blueprint to follow, but it's also what makes it so exciting!"

- Dr Manon Schweinfurth

Sophie's work contributes to an expansion of Darwin and his theory of natural selection. Natural selection is the "survival of the fittest" – every action taken by an animal relates to their own fitness, which increases the chances of reproduction and passing on one's genes. On the surface, cooperation between unrelated animals seems like a waste of energy if they aren't family. However, animals do cooperate with each other, in a phenomenon known as reciprocal altruism. Initially proposed by Trivers (1971), the theory suggests that animals pay the initial cost to help others – for example, by standing up for a friend in a fight – with the expectation that other animals will help them when they need it. While the theory is accepted in humans, the notion of reciprocal help in other species is still debated. Some suggest that reciprocity is too cognitively demanding for animals – for example, different aspects of an interaction have to be memorized over time to for an animal to be able to reciprocate effectively, which may be difficult for animals with smaller brains – but others, such as Sophie, believe that a spectrum of reciprocal abilities exist, and that there are ways to bypass this cognitive demand for less complex forms of reciprocal help for animals which have smaller and less sophisticated brains.

She plans on testing this hypothesis by finding ways to lower these cognitive demands to allow reciprocation to occur within different animals. For example, would rats remember an event better if it was surprising? What exactly are these rats remembering – do they memorize the details of an event or not? She also hopes to look at reciprocity within chimpanzees as well – the same questions can be asked of chimps, though for them emotional bonds also play a role within the dynamics of reciprocal help.

She hopes that her research will provide more evidence that animals act in accordance with how much other animals have done for them. Moreover, she hopes that her research will impact animal ethics in biology from a psychological perspective. Rats and chimps are kept in cages in labs and used in experiments. Her work may help the scientific community to better understand their social lives and needs, which may positively impact their welfare and management.

RESEARCH INTERESTS

THE FUTURE OF SCIENCE

Now, as a PhD student, Sophie does research alongside demonstrating for undergraduates, which she feels is the "best of both worlds". She hopes to stay in academia and to eventually set up her own lab, but if that doesn't work out, she's also open to a career in communicating scientific findings with the public, especially because she believes that science has to be more open in the future. She's also particularly interested in advocating for animal welfare due to her interest in animal behavior.

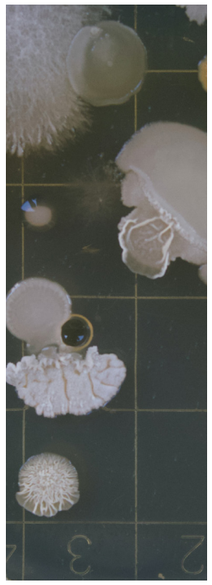
Because of the general public distress caused by the pandemic, skepticism towards the sciences is on the rise. She believes that scientists, including herself, have to work towards re-building trust in the scientific community, which can be done with a greater emphasis on communicating with the public and making research more open and transparent.

As to how people can gain experience in academia, Sophie believes that this could be best accomplished by helping a researcher, whether it be working as a research assistant or doing a summer internship. It provides hands-on exposure to scientific research that could help a person determine if doing a PhD is for them, not to mention the advantage these experiences can give in applications. These experiences aren't too hard to come by – just reach out to a PhD student or researcher. The worst they can say is no. They won't bite (unless their R code isn't working).

Sophie came from an unassuming background. She once imagined academia as something exclusive – but now she's getting a PhD in St Andrews, of all places. She's working on something she loves, because she thinks it's the right thing to do – and anyone who feels like a life in academia is the life for them, who thinks it's the right thing to do can do it too.

Jing (Mandy) Ma. University of St Andrews. Class of 2024.

THE SCIENCE GIRL



TVB is the largest television broadcasting company in Hong Kong.

My interest in psychology did not originate from a single sentence or a specific moment - my motivations of learning psychology accumulated gradually into an unwavering decision without noticing. In retrospect, however, my interest in psychology stems from children.

I was a "science" girl, and was particularly good at chemistry. My chemistry teacher recommended that I apply for a chemistry degree by the time I was starting to apply to university, but something wasn't right. I applied for a psychology degree at the time without putting much thought towards it, but thinking about it now I was always fascinated by psychology even when I was young.

I remember when I first heard of "psychology" as a field of study. I was about 8 or 9, when I came across a famous TVB drama (1) called "Every Move You Make". The main character was a psychologist whose job was to work with the police. He was an expert in analyzing body language and micro expressions to solve crimes. This TV series sparked my interest in "psychology" – though my concept of psychology as a field at the time was limited to mind reading and other sorts of magic. It was my interest in how kids behave, however, that really built my interest in psychology.

I belong to a big family with many young siblings. I crazily adore kids, which I think was inherited from my dad. I would choose to play with young children rather than friends my age. Therefore, I had lots of opportunities to observe the behavior of young children. I noticed initially that they are keen on mimicking their parents at roughly 2 years old. As they grew up, cartoon characters became more and more important in shaping the behaviour of these children. . Children express their feelings as if they are the characters. Even though the phenomenon could be explained with simple common sense, such as different environmental stimuli, this interesting observation was when I started to be interested in psychology.

As I grew up, I observed that some of my siblings had a huge difference in personality compared with their childhood. Is that a result of their growing environment? Or was it simply the expression of a genotype? And to what extent? Did I have a huge influence on them? Was it in a positive or negative way? Lots of questions popped into my mind. I started to read articles about effects on personality in twin studies with various conditions. This introduced me to the scientific aspect of psychology – it is not "mind reading" or based on common sense, it is based on the scientific method, just like biology or chemistry. The more I am curious about the reasons behind changes in kids, the more I am interested in psychology.

It's been an academically eventful year, and yet I feel like I've barely scratched the surface of the subject. I am not sure which field I would like to investigate. It may be developmental psychology or educational psychology or even pure education. One thing that I've come to realize is that effective communication between children and adults is insufficient, leading to children's feelings being ignored or undervalued. Adults can seek out treatment to identify and treat their problems through a psychologist, but children can rarely do the same. Perhaps, to help these children, I might focus on studying neurodivergent children as a postgraduate student.

There are lots of spaces for me to explore. I could change my mind when I learn more about psychology. It's hard to say.

FEATURES

DONALD TRUMP'S AMERICA:
A Safe Space for Racist Expression

Sana Beotra. Grinnel College. Class of 2022.

In a June 2020 political rally, President Donald Trump renamed COVID-19 the "Kung Flu"; a lexical joke that compared the deadly virus to a Chinese form of martial arts (Nakumara, 2020). His supporters immediately burst into cheers and laughter, unfazed by the racist implications of the joke. Similarly, last month Republican Senator David Perdue of Georgia mispronounced Kamala Harris's name, calling her "Kamala-mala-mala, I don't know, whatever" (O'Connor, 2020). Once again, the audience laughed hysterically. In order to enjoy humour that denigrates a specific group, one must have a pre-existing negative attitude towards that group (Zillman & Cantor, 1972). This suggests that most Trump supporters hold racist attitudes and, furthermore, are comfortable asserting their racist views. However, surveys indicate that 71% of Republicans agree that an America composed of mostly non-White citizens does not bother them (The Public Religion Research Institute, 2020). If this was truly the case, the same Republicans would not have laughed at the aforementioned jokes because they would have been unable to overcome the offensive representations and experience amusement (Gibson, 2019). This begs the question - why are people comfortable expressing their prejudice in certain situations but not in others?

This question is explored by Ford, Teeter, Richardson, and Woodzicka (2017), who highlighted the ways in which disparagement humour in public domains can foster discrimination. To interpret and analyze Ford et al.'s (2017) results, it is essential to first understand prejudice suppression and rebound effects. Following the civil rights movement in America, racist expression is considered unacceptable in most social and professional spheres today. Consequently, prejudiced people are more likely to suppress their true thoughts in order to conform to these social expectations and norms (Crandall & Eshleman, 2003). This prejudice suppression results in something known as a rebound effect, wherein the suppression is soon followed by racist thoughts and expression to an even greater degree (Wegner et al., 1987). Consider the following example for conceptual clarity: Wegner et al. (1987) showed that when participants were initially told to avoid thinking about white bears, they expressed more thoughts about a white bear in a latter portion of the experiment than a control group who were not given any instructions. Thus, it follows that those who did not express their true feelings in The Public Religion Research Institute (2020) survey are possibly even more dangerous than overt racists since rebound effects would suggest that they subsequently experienced more prejudiced thoughts regarding people of colour in America.

Ford et al. (2017) argued that exposure to disparagement humour alleviates prejudice suppression and therefore erases the presence of rebound effects. That is, when people hear racist jokes, they feel comfortable expressing their actual thoughts on the matter without suppressing their prejudice. Since their initial expressions accurately reflect their actual thoughts, they do not need to overcompensate through rebound effects. In their experiment, Ford et al. (2017) assigned participants to either a prejudice norm, non-prejudice norm or control condition. In the prejudice and non-prejudiced norm conditions, participants viewed a documentary on same-sex adoption with four confederates posing as participants and then shared their thoughts with each other before writing them down. In the control condition, participants watched the video alone. The confederates in the prejudice norm condition exchanged anti-gay jokes during the verbal exchange. After writing down their thoughts on same-sex adoption, all participants privately read a man's resumé and rated him on trait dimensions that are stereotypical of gay men,

such as 'fashionable'. Participants' written responses on same-sex adoption were used to classify them as high-prejudiced (anti-gay rights) or low-prejudiced (pro-gay rights). In accordance with their hypothesis, Ford et al. (2017) found that high-prejudiced participants in the non-prejudice norm condition experienced a rebound effect and rated the man more stereotypically 'gay' than the prejudice norm group or the control group.

However, participants in the prejudice norm condition opposed same-sex adoption the most in their written responses. This is because, upon hearing anti-gay jokes, these participants felt less pressured to suppress their opinions and openly expressed their prejudice in their written responses. Ford (2016) explains these results by emphasizing the role of disparagement humour in defining the range of socially acceptable behaviour. Stereotyped humour expands the limitations of what is considered admissible; unacceptable racist messages are tolerated by society when they are hidden under the guise of a "joke". Thus, when high-prejudiced people hear racist jokes, they do not feel normative pressure to mask their intentions and are able to openly voice their bigoted opinions. Another study by Ford, Boxer, Armstrong, and Edel (2008) found that exposure to racist jokes increased racial discrimination on a subsequent task. This implies that racist jokes can alleviate societal norms not only to the extent of increasing prejudiced expression, but also increasing tangible prejudiced behaviour.

What does this mean in a real-world context? For one, these findings explain why Trump supporters roared with laughter at his racist word-play while contrastively self-reporting anti-racist beliefs. Trump's racist jokes redefined social expectations in that specific setting, causing the audience to believe that they could unreservedly express their biases. Additionally, nine out of ten Trump supporters are White (McGill, 2016) and therefore belong to his racial ingroup. Research shows that when our ingroup makes negative jokes about outgroup members, we relax our personal restrictions on expressing our pre-existing prejudices (Ford, Richardson, & Petit, 2015).

By using disparagement humour, Trump was able to turn a Phoenix megachurch into a sanctuary for spewing hatred and racism. And therein lies the problem. For the past four years, President Trump has appeared on our televisions and social media platforms to make racist "jokes", like dubbing President Obama the 'Most Valuable Player' of the terrorist group ISIS (Singer, 2020). In doing so, he has diminished the perceived severity of racism, with only 9% of his supporters agreeing that it is much harder to be Black in America than it is to be White (Pew Research Center, 2020). Moreover, he has inadvertently broadened the scope of acceptable racist expression. For example, consider Kyle Rittenhouse, a 17-year-old, who shot and killed a man during a Black Lives Matter protest. Instead of being criticized, the teenager is being endorsed for Congress by Republican lawmakers (Embury-Dennis, 2020).

In conclusion, it is essential to raise awareness about the negative impact of disparagement humour, especially in today's political climate. Following the tumultuous presidential election, as well as the destruction wrought by COVID-19, it is vital for Americans to come together and spread love and happiness, regardless of social identities like gender, age or race. As for President-Elect Joe Biden, he must utilize his office to redefine the limits of acceptable behaviour and put out the wildfire of racism that was ignited by Trump.

Callum Wilson.
Abertay University.
Class of 2021.

Joint Brains & Joint Action

Humans have a remarkable ability to perform joint action. To chant and dance together as well as perform higher order functions like learning from each other and solving problems together. This piece is an introduction to some research that suggests that temporally locked neural activity between individuals may mediate these behaviours.

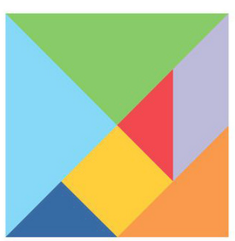
Neuroscience generally adopts the practice of imaging one brain at a time. The practice of measuring two or more brains simultaneously (known as hyperscanning) offers insight into the dynamics between brains in real time (Redcay & Schilbach, 2019). Neural synchrony refers to when activity in brain area A in brain X is temporally locked to brain area A in brain Y (Wass et al. 2020). Using hyperscanning, research has investigated low level processing as well as higher-order problem solving and shared intentionality tasks (Fishburn et al. 2018). Research has also investigated neural synchrony in mother-pre-schooler pairs (Nguyen et al. 2020).

Speaking and singing together:

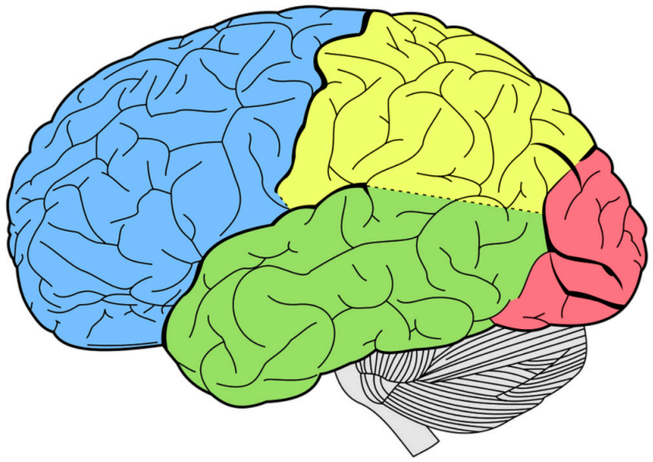
The left inferior frontal cortex (IFC) is located towards the front of the brain and is thought to be involved in speech formation and decision making. Jiang et al. (2012) found that that the neural synchrony within pairs taking place here during face to face dialogue was greater than in back to back dialogue and during monologue. Similarly, synchrony is enhanced in the left IFC, in a paired singing or humming as well as the right IFC, which is more related to musical processing (Osaka et a. 2015). Face to face social interactions is important during cooperation. If neural synchrony underlies our ability for coordinated vocalizations, it appears that the use of visual information as continuous information about the partner in the communicative act is important.

Task performance:

Hyperscanning, has been used to investigate correlates of task performance. The tasks used in this research usually involve a tangram puzzle, which is similar to a jigsaw. The pre-frontal cortex towards the front of the brain as well as the parietal temporal areas (shown below) show greater activation during paired tasks. These areas are involved in decision making and the sharing of "psychological states" (Nguyen et al. 2020; Miller et al. 2019).



Talgram's Puzzle



Parietal temporal area indicated as the broken line between the parietal (yellow) lobe and the temporal (green) lobe

Besides joint action and joint decision making, neural synchrony is thought to be involved in creating good learning environments for children (Atzil & Gendron, 2017). Parent-child neural synchrony when solving puzzles predicts performance. Generally neural synchronization is related to task performance however, when parent-child pairs are working together on one puzzle neural synchrony is higher again. Neural synchrony predicts task performance over and above behavioural reciprocity (Nguyen et al., 2020). This indicates that neural synchrony is associated with levels of coordination that are not easily inferred from the behaviour alone.

Neural synchronization may be a possible mechanism for shared intentionality. This is defined by the following criteria: mutual responsiveness, commitment to a joint activity and mutual support within the pair (Bratman, 1992). When two adults participate in a task involving a shared goal there is greater neural synchronization between brains in the pre-frontal cortex (an area associated with decision making including social decision making as well as action-perception), compared to when performing the same task individually (Fishburn et al. 2018). It appears that this coordination is unique to shared intentionality. A building block of shared intentionality called "interagency" where a member of the pair perceives their partners actions towards the mutual goal as their own agency (Searle, 1980), may be instantiated by temporally locked neural activity. This allows for the coordination of action in a joint effort (Fishburn et al. 2018). Using these findings, developmental disorders such autism spectrum disorder (ASD), for which primary diagnostic criteria involve deficits in reciprocal interaction, could be investigated through the lens of neurological mechanisms of shared intentionality (Fishburn et al. 2018).

In summary, advancements in brain imaging technology have allowed for research on the relationship between individual brains. Neural synchrony is associated with cooperation and is a possible "biomarker" for mutual task engagement (Hoehl & Markova, 2018), allowing for optimal learning and cooperation in child development (Nguyen et al. (2020). As well as this, it is a possible neural mechanism for shared intentionality which is used in group tasks.

MAKE YOUR CHOICE: COLA OR PEPSI?

Tim Kovalishin & Veronika Lachina. University of St Andrews. Class of 2021.

Over the last 45 years, worldwide obesity has nearly tripled. According to the World Health Organisation, in 2016, more than 1.9 billion adults were overweight. Of these over 650 million were obese. In contrast, 45 years ago less than 250 million people had weight-related health issues.

What is the factor behind this dramatic increase?

The most likely culprit is the explosion in the popularity of sugary drinks. An obvious correlation can be seen between increased obesity among people and an increase in the popularity of drinks like Coca-Cola. There has been countless research carried out on the negative impacts of sugary sodas on human health (Harris et al., 2011) and yet something other than taste makes people continue harming their bodies. The consumers of these products are convinced that they like the taste of a particular drink. Most of the people you will find in a food court consuming junk food are likely to have a favourite soda drink they live by. But can they really identify their favourite drink blindfolded or is it just the logo on the can that attracts them? In this article, I present a review of my research on self-hypnosis among customers of popular brands of soda, how bottle covers can change people's mindsets and if people can really identify their favourite drink in a blindfold test.

I conducted an experiment that involved participants trying to distinguish between two soda drinks – Coca-Cola and Pepsi in a blind test. The participants were offered two visually identical glasses of soda. Then they were asked to taste both of them independently and name which glass corresponds to which drink. In order to motivate the participants to identify the drinks, correct responses were awarded cookies. In addition, the glasses were constantly being swapped around. Thus, if the same person wanted to participate several times, there would be no correlation between the side of the table where the glass is placed and the drink in it. In our results, we took note of the age and gender of the participant to see if there exists any difference in distinguishing abilities between men and women as well as kids and adults.

The experiment showed some very interesting results. Overall people couldn't distinguish between the two drinks with about 50-50 split (p-value = 0.4013) between the right and wrong answers. However, out of 70 participants, men had a significantly higher chance of identifying the drink correctly (p-value = 0.0022) in comparison to women. More surprising was the fact that male children had an even higher chance of guessing the drink than male adults, namely, 73% of children guessed right compared to 62% of adults. One of the possible explanations of this phenomenon is that the structure of children's tongue is different from an adult's tongue. Children have a higher tastebud density than adults which may allow them to distinguish different tastes better, in particular the sweet ones. Moreover, stores that sell soda drinks tend to put them lower in children's sight to increase the sales of soda to kids. Consequently, children buy these products more often and are more familiar with their taste. These two factors together may explain why the children have outperformed the adults.

There has been similar research carried out except with the help of brain Electroencephalography (Lucchiari and Pravettoni, 2012). It investigated the brain's response to seeing the brand images like the Coca Cola logo and how it affected the tasting experience as a whole. As it turns out, people tended to enjoy the product more when they knew the brand that produced it. From these results, we can see how people fool themselves into thinking that they enjoy the product when in reality they enjoy the cover of the can. This is because psychologically, the logo is associated with hundreds of positive things. The consumers subconsciously imagine conventionally attractive people in the soda drink adverts, the freshness of the bottle covered in dew and even the happiness of Christmas, as Coca Cola has created a new Santa Clause. Now, when a consumer goes to the grocery store and sees a can with a picture of Santa Claus on it, they will unconsciously associate it with Christmas- the happiest time of the year. An ingenious marketing strategy on the part of Coca-Cola. This results in an overconsumption of sugary drinks by the population which brings us back to the obesity issue. Companies abuse these psychological influences on their consumers for their own benefits and profit.

In conclusion, this experiment led us to some unexpected findings, such as the discovery that people were unable to guess the soda. Whilst we can't clearly claim that companies who produce soda drinks take advantage of peoples' unconscious minds, we can say for a fact that a combination of lots of sugar along with a predominantly sedentary lifestyle can have serious consequences to one's health. So, the next time you buy a soda, ask yourself whether you like the taste or the brand!

EDUCATION AND BEYOND

In this issue, I wanted to explore BAME people's experiences in the School of Psychology. I worked with MAZE contributor Jo Lim to interview Dr Akira O'Connor, a lecturer and researcher who is well beloved and known by many psychology students at St Andrews. You may know Akira from statistics classes in second year!

Akira and I discussed his work and life passions, his new club that he cohosts with Dr Erin Robbins, and some of his (very useful) running advice. We also talked candidly about what it's like to be a minority at this university, and why it is important for universities to recognise and support BAME students and staff. I hope that by sharing our experiences, we can bring into perspective the everyday struggles that Asians face in St Andrews and in the U.K.

Follow him on Twitter here: https://twitter.com/akiraoc?lang=en
Check out his website: akiraoconnor.org

Vivianne Ong
Class of 2022

AKIRA O'CONNOR

ON RESEARCH, RACISM, AND RUNNING

Interviewed by Vivianne Ong
Special credit to Jo Lim

Can you tell us about your current position and what you do in the school of Psychology?
I'm a senior lecturer in the school of Psychology. I joined in 2010 as a lecturer in neuroimaging. I was recruited to help start a imaging programme at St Andrews and build up relationships with the scanner at Ninewells (Editor's note: This is an fMRI scanner at Ninewells hospital, used by researchers and the NHS) and that kind of thing. Now, my research involves imaging, but it uses imaging like a tool in much the same way that we use statistics as a tool. It's not the be all and end all, it's how we answer some of the questions that we're interested in.

So as a result, I kind of dabble, I guess, in a lot of different things. I research, and so although students might not know this because I teach statistics, I'm a memory researcher and particularly interested in things like sensations of memory: how we know that we're remembering and weird sensations of memory like déja vu where the kind of experience of remembering gets disconnected from the feeling of remembering, so we might not be having a memory, but we feel we are. I'm really interested in that kind of conscious layer that sits above that kind of mechanism of cognition.

What is the most interesting thing about memory that you've learned from your research?

We're used to thinking of memory and the awareness of memory being kind of one and the same thing. If we remember something, of course, it's gonna come into our consciousness but experiences like déja vu and the opposite experience, jamais vu, show us that actually those two aspects of the kinda holistic experience can be separated. So, consciousness sits above these cognitions not necessarily, but I mean technically, as a consequence of having those two cognitions, these things bubble up to the surface of consciousness.

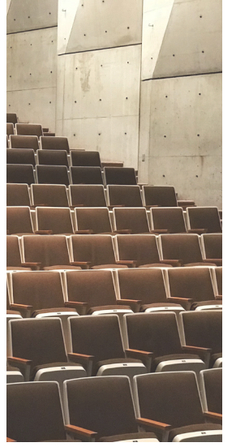
But sometimes you get this disconnect where there isn't necessarily this inevitable conscious awareness of the cognition that you're having at that moment and I find that aspect of things is really interesting. It's like a computer right, where you don't know the parts of a computer or a car that were broken until your car starts doing something weird, or your computer starts going weird, and then you realise how the different bits that have the potential to go wrong are all contributing to the whole function of the system.

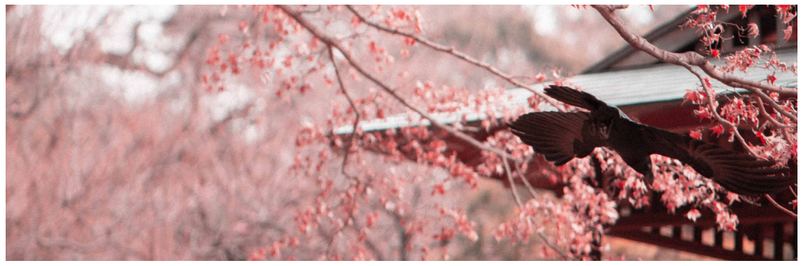
What is the most frustrating thing about being a researcher?

Ooh that, that's interesting. Well, there's frustrating aspects of research in the process of research in general, and then there's frustrating situational aspects. So, the frustrating aspects of research in general tend to be when you don't get grants, when you don't get the publications that you think your work merits. Because everyone thinks their research is really interesting, it's really tough getting feedbacks or getting knock backs from journals or grant boards saying 'Yeah, it's fine but it's not as interesting as this other stuff'. That's always hard, you have to develop a bit of a thick skin or an ability to bounce back from that, and not take things too personally.

Situationally, right now kind of in the context of Covid, it's really hard to get any research done with what's out there because there are all sorts of practical difficulties to do with getting access to people, seeing people, but also other stuff is being prioritised. We've got this new online context and the administrative load associated with that just makes it really hard to do, and to get any time to do anything else. So yeah, that's tough right now.

"You don't know the parts of a computer or a car that were broken until your car starts doing something weird, or your computer starts going weird, and then you realise how the different bits that have the potential to go wrong are all contributing to the whole function of the system."





You mentioned Covid and I'm interested to ask: how has Covid changed your researching technique or how has it affected your life as a professor, as a researcher, as a teacher?

Covid has stopped all imaging research as far as those research - so there tend to be two ways in doing imaging research: one is in a research-only facility and one is in an NHS hospital. We're in that kind of NHS hospital side of thing so that's all stopped. And that's a real shame. I mean, other ways kind of involve like, you can't see people in person, so you can do online experiments and online experiments have come on leaps and bounds in the past, probably 10 years or so. We've gone from kind of questionnaire-only systems to now, kind of fully functional cognitive testing systems! But what they don't allow you to do is use nice bits of hardware that you might have made, like sliders, buttons, all that kind of stuff, they don't give you as much control of the environment the people are in. And on the one hand, that's great right because that gives you a kind of a real world. If you see an effect in an online context, then it's probably a big effect but it also means you don't get the opportunity to really, really closely control extraneous factors that might be crucial to show any small effect.

In a kind of personal context, it's changed, it's entirely changed the way we work, you know. It's hard not being able to see colleagues, see students in a workplace. I suspect that might be a legacy of Covid that the workplace becomes a lot more diffused and that has consequences, right? That means that it's a lot harder for work to stop when you leave work, the building, because if you're never in the building, then you're always in the work building which is your house. And yeah, I worry a little bit that in the context of Covid we're gonna have office space reclaimed for users' teaching space which means we're gonna get less of the day-to-day, seemingly meaningless encounters that are actually super meaningful because they're what builds your community and builds your spirit as a school and as a University.

Tell me a little about your family and your life growing up.

I grew up in Northwest London. My mother's Japanese, my father's Irish, they're both citizens of both of those countries, so neither of them are British. I've always grown up with an identity of not being British, but being a Londoner, and being part of the various communities at the heart of London. One of the big communities that was really important for me was football. So I support the club called Queens Park Rangers, and that was amazing for me because it was an accepting environment, a multicultural club, and there was none of the racism that you saw with other clubs in London. That was a real thrill for me, actually, in a way that I didn't realise at the time.

I've got a brother who has Down syndrome, and we were at the same primary school and then we went to different secondary schools. I think growing up with my brother has informed my interest in psychology. One of my Masters research project was on looking at metacognition, so feelings of knowing in people with Down Syndrome, so it was very close to home.

Growing up in Northwest London, that's near the Irish areas and West London. It's also near the Japanese areas in West London, so I used to go to Japanese school on a Saturday. Oh, I was terrible at Japanese. I got good at rugby at school, so that I would be picked for the school rugby team, and they played fixtures on a Saturday, and that was the only acceptable reason for not going to Japanese school in my household, so I got quite good at rugby!

You mentioned growing up half-Asian. How has that affected your experience living in London and St Andrews?

I mean ... it's strange. So growing up in London, it was not the kind of cosmopolitan utopia that it could have been. I was growing up in 1980s London. I've still got an aversion to Dr Marten boots, because those the boots that were worn by skinheads at the time. I was always on the lookout for potential racial abuse, and that was a very real thing. The issue was, the comfort was, that there was community. I hung out with a bunch of guys at school, on the tube, who were mostly Asian - Indian, Sri Lankan, Chinese - just having that big community, even if you weren't all from the same background, you still had an experience of togetherness that it's hard to find sometimes in St Andrews.

I tried a lot to hide my Asianness growing up. It was a way of fitting in when I wasn't with my Asian friends. On the one hand, I can view that as kind of shameful now, but I can also view it as a response to the various things that were going on in the background. It's only really in the past, I would say, 12-15 years that I've really embraced being mixed race and understanding that it's a thing where I don't need to choose one or the other. I don't need to nail my colours to the mast. I can just be me, and revel in all that my background gives me.

St Andrews is difficult. I think in Scotland, maybe outside of Glasgow, is difficult in that context. I mean, it's different challenges. I've experienced racism everywhere. I can romanticise London, and say it was a utopia, but it wasn't. But perhaps there are more people you can turn to when [racism] does happen.

I was walking on Market Street the other day, and I saw an Asian slur graffitied on a shop wall. I was just so surprised, because usually St Andrews is very much viewed and promoted as an international and liberal town. It really puts me in place because I'm like woah - I can't believe this is still a thing. But of course it's still a thing! It never stops.

I'm so sorry. It's awful -- it does that. It is designed to put people in place. Even if you are told that you are valuable and you are part of the community, there are all these things that remind you, that yeah -- I might be part of the community, but I'm not as part of the community as people who aren't worried about seeing these things, who don't have that challenge to themselves just lurking in the background all the time. It's awful. What happens with me when [something like that] happens, is sometimes it's fine. Sometimes, it's not fine, and I get really upset about it.

Community is so important. You can talk with people about it if you have that [community]. One of the things I find about the mixed-race experience, you feel kind of first-generation mixed race. Your parents are from different racial backgrounds. That can be quite isolating as well, because they have their own experiences. Both my parents are immigrants, but they have different immigrant experiences to each other, and then to me, so that's where community is so important. I really, really wish I had the solidarity of student groups that you have at St Andrews. And that's despite the fact that the community is less diverse than it could be. The associations and the clubs that do exist are wonderful, and I really wish I had been a part of that in the early 2000s when I was in university.

> "It's only really in the past, I would say, 12-15 years that I've really embraced being mixed race and understanding that it's a thing where I don't need to choose one or the other. I don't need to nail my colours to the mast. I can just be me, and revel in all that my background gives me."

Why do you think it's important to have staff members and professors who are BAME? [Editor's note: BAME stands for 'Black, Asian, and Minority Ethnic']

It's massively important. That's the true meaning of community. If you could look into an organisation and see that is made of people from populations and backgrounds that it prizes, or that it says it prizes, if it's not showing you that in its structure -- and that's right the way through to senior management -- if it's not showing you that, there is a disconnect between their words and their actions. I think that therefore makes it harder to take those words at face value. I think a big problem with a lot of EDI [Editor's note: EDI stands for Equality, Diversity, and Inclusion] work, is that it can be hollow. It's fashionable amongst socially liberal organisations to be talking about these things as important, as their core values, but if you don't see it being manifested in how they make their money, not just in terms of the students but it's also who they're employing, and who's being allowed to make decisions. Then, I think it runs the risk of being window dressing.

It really surprised me to see that a lot of people on the EDI committee are white.

Yeah, you know, EDI committees are necessarily drawn from the staff that are available. It's interesting, you would expect that every single member of staff from a traditionally disadvantaged or minority community would be part of an EDI committee. But that's not the case. And I think that's because people can be frustrated with how ineffective EDI work can be, and so they try it for a bit and then they opt out. There are other issues, we can talk for hours about this, but I think to improve that you've got to take a two-pronged approach. The makeup of the staff that you're drawing from for the EDI committee, and you've got to make sure that the EDI work that is done is not tokenistic. It has to be truly effective and coming from it as not just the kind of being seen to be effective, but sometimes actually doing stuff that is not going to be seen to be effective until longer. Putting in place culture and practises that are going to work.

As far as senior management goes, I think that there is less of an excuse in terms of who they can draw on for that, because they can draw on a lot of things. They can potentially draw from everyone in the university and beyond. So, I think there are issues here to do with who people in senior management view to be effective leaders and their effective leadership styles. And I think those might be subject to biases that no one wants to talk about. If they are not explicitly being racist, those biases must exist because otherwise, we would have this multiracial utopia.

I heard that you and Erin started a Culture Club this year. Could you explain what it is and how people can participate?

Culture Club is something that we are really excited about, and would love, love students to come to. There's a very small student group that come at the moment, people who dipped their toes in the water and have decided that it's kind of interesting. There are a few staff that come. We try to make it as inclusive as possible, so this isn't somewhere you go to listen to what staff have to say, this is somewhere you go to discuss and what we're trying to get people to do is to discuss big ideas. They're not necessarily ideas that are traditionally included as part of the EDI discussions we have in the school, but they weigh in in some respect. And they are hopefully a little bit more interesting than the standard EDI ideas we talk about.

We've spoken about, for example, the idea of meritocracy, we've spoken about private schools, we've spoken about the idea of public space and what space is for. We always encourage people to prepare by reading or watching some materials that we make available, but we've always got at least one thing that is gonna take under 10 minutes. You can watch this in the 10 minutes before you turn up and then you'll be as prepared as most people. It's just the case of discussing stuff. Usually, the material we send out is meant to be really engaging and provocative. It's fun, it's kind of what I hope university would be like, in terms of discussing ideas and exposing ourselves to new ideas. For example, the meritocracy thing blew my mind. I'd always bought into this idea of meritocracy as unambiguously good and so to read the material about how much that idea might be flawed was really interesting, especially in the context of a university, where we're geared up to kind of feed into this meritocracy system. So yeah, I'd encourage anyone to give it a go.

"That's the thing: listen to your body and don't be afraid to dial back. You might lose a little bit of fitness but it's like a computer game – if you can get to that level before the injury, you can get there after the break and build on it."

That's amazing! It runs weekly, right?
Yes, weekly, Tuesdays at 2pm. There's always information sent around about it as part of the events in the email that the school sends out. But also really happy if anyone wants to contact me if they can't find that information. I can add you to the Team and you can just see what pops up.

So, I also know that you're an avid runner. What races have you done, if any?
Well, before Covid, I used to race all the time. I lately got into marathon running, so I ran in Stirling. That was my best marathon, and then I used that race to qualify for London and that was my worst marathon! So, marathon running is a real battle with yourself because as much as you might hear those clichés about you know, you just gotta push through the wall and it's all psychological, there's so much of it that is training your physiology to cope with being on the go for just shy of 3 hours. And that battle with yourself starts kind of months before the day of the race. I love it, I miss that aspect of competitive running at the moment, but you know I still enjoy getting up in the countryside.

What's the best advice you can give about running to a person who's starting out in running?
The best advice I can give is something all runners struggle with. One of the athletes we train with is going to the Paralympics in Tokyo to run the marathon. And what our coach always says about him is, his name is Derek Rae, he's an incredible runner, what my coach always says about him is: Derek listens to his body. I think that's so important in terms of longevity of running. When you start out running, I think it's really easy to go hard and think that it's 'no pain, no gain'. With running, yes, there's a certain amount of pain. The pain of unfitness is a horrible pain; that is something to push through. But the pain of potential injuries is not great. So, as soon as you start getting pains that are outside the kind of heart-lung system as a young runner, then I think you need to listen, and you need to scale back whatever you're doing. And that can be really hard, I ran on injuries until I broke my leg as an inexperienced runner so yeah. That's the thing: listen to your body and don't be afraid to dial back. You might lose a little bit of fitness but it's like a computer game -- if you can get to that level before the injury, you can get there after the break and build on it.

I also heard that you recently got a puppy. How's that been?
My puppy is called Badger. Badger is a German shepherd husky mix; mixed race just like me.

Runner just like you too! I assume that you'll be taking him out for a lot of runs.
Yeah, that's one of the reasons we got the puppy. Eventually, we'll have some good running times. He's 8 weeks old right now. [We're] dealing with a lot of corrections to behaviours. Those undergraduate behaviourism classes were super important! I'm literally putting theory into practice now. With Erin as a developmentalist, hopefully we'll have a perfect combination.

RAPID-FIRE ROUND

Favourite music artist?
Right now, it's a guy called Luke Sital-Singh. He's awesome. It has been Taylor Swift for a long time.

Jogging or hiking?
Jogging.

First memory in life?
Doing an impression of a grasshopper that I was watching. Jumping and then squashing it.

Favourite statistician?
W.E.B Du Bois.

Best museum you've been too?
Interesting. Okay, it's called the City museum, it's in St. Louis. It's not a museum, it's a giant adult playpark. It's bonkers but it's called city museum, so I think it counts.

Hard cover or soft cover books?
Soft covered.

Long term memory or short-term memory?
Long term memory.

What makes you laugh no matter what?
My daughter doing an impression of a sloth.

SPSS or Excel?
I love Excel.

Most recent TV show you've watched?
Cheer on Netflix. Incredible.

Smoothies or milkshakes?
Definitely milkshakes, but they got to be thick ice cream-y milkshakes.

How do you take your coffee?
One sugar with milk.

Correlation or regression?
I love correlation because it's so intuitive.

REFLECTIONS

My section is an engaging, relatable platform for students. It focuses on the importance of mental health, particularly during these unprecedented times, where we have been forced to adapt to a new normal - a change that has been tough on many. 'Refelctions' highlights students' journeys and experiences, discusses mental health-related self-care tips and emphasizes the importance of mental health in the modern day and age. I hope it will help readers not only find ways other students have been taking care of their mental health during these uncertain times, but also help you adapt to the new normal and come a step closer to understanding the importance of mental wellbeing.

Kaenat Kohli

Class of 2022

SELF DIAGNOSIS ONLINE

THE RISE OF MENTAL HEALTH ON TIK TOK

Harriet Isherwood. University of St Andrews. Class of 2023.

In recent weeks, I have increasingly had 'put a finger down, mental health edition' TikToks appear on my feed. They list symptoms or habits, before revealing that they link to numerous anxiety, ADHD, OCD or depressive disorders, and it raises an interesting question. How much stock should we put into online, generalised, diagnoses? This article will outline the realities and issues of self-diagnosis online.

TikTok as a social media platform rose in popularity over the coronavirus pandemic- a time in which people missed out on the ability to socialise or to engage in in-person therapy. Thus, the emergence of TikTok videos on mental health can provide support and reassurance to many (Psycom, 2021). This includes videos from mental health professionals, which could enable trust in these online resources. In an online article, Thea Gallagher, PsyD, and David Puder, MD, showed how the focus on mental health on TikTok is mostly positive and can help to destigmatize and bring awareness to mental health issues and diagnoses (ibid.). However, self-diagnosis from online resources assumes knowledge of the nuances of actual diagnosis (Psychology Today, 2010). For instance, symptoms like mood swings are an aspect of multiple disorders- including bipolar disorder, borderline personality disorder and major depression (ibid.). Puder, reviewing a TikTok on OCD, adds the comment that OCD is complex, and manifests differently in different people (Psycom, 2021). We understand ourselves arguably the best, so there are mental health understanding and strategies which can be taken away from TikToks, but we should interpret them lightly- and seek advice from a GP about actual concerns (Psychology Today, 2010; Psycom, 2021).

A notable issue raised about mental health online is symbolised in the use of 'Trigger Warnings'. For instance, the spreading of violent or hateful speech can be fast tracked by social media algorithms- which can be damaging. An article in the Huffington Post (2020) discusses the mental health issue of racism, which is impacted by the dispersion of such videos. Ali in the article draws attention to the word exhaustion- the exhaustion of black people and many ethnic minorities in having to see and explain their oppression, and justify their pain or worth (Huffington Post, 2020). This exhaustion is a mental health issue, and the rise of the Black Lives Matter movement after George Floyd's murder shows that racism is a condition which can kill (ibid.). The rise of these social justice movements can reopen intergenerational wounds from the oppression and trauma Black people and people of ethnic minorities face (ibid.). TikToks can similarly trigger this exhaustion, particularly when people of colour are forcibly asked to participate in discussing issues of racism. Furthermore, mental health spaces are dominated by whiteness. Research continuously shows that black people are more likely to suffer with severe mental health issues than any other race, are underrepresented in mental health services, and if a black person's experience does not resonate with a white therapist, it can lead to misdiagnosis (ibid.). Online resources can be beneficial, in helping people understand mental health, feel heard, provide support and raise awareness for mentally draining issues, including racism, but they need to be considerate of these mental health discrepancies.

When you google online self-diagnosis, the first search item is a symptom checker- so addressing mental health online is not necessarily generational. Whilst TikToks don't provide professional diagnosis, and actual mental health concerns should go to an actual GP or professional, they can raise awareness and de-stigmatise the experiences and nuances of mental health issues. This is a positive movement, but it needs to be aware of its impact and toll on different people, particularly on communities who could be particularly triggered by such sensitive topics.

TELEGRAPH – CHRONIC ILLNESS, UNIVERSITY, AND SCOPE FOR HOPE WITH LOCKDOWN:

Can online learning help promote inclusion among students suffering chronic illness?

I wished to create some awareness of how, albeit far from ideal, lockdown may be a good opportunity for students with chronic illness to re-engage with their academic community. Indeed, this made me consider the citizenship model of recovery (discussed below), and the potential pertinence of it to inclusion in university of students suffering chronic illness. Importantly, I also feel that those who can take advantage of this potential benefit may be better situated when on-campus study returns.

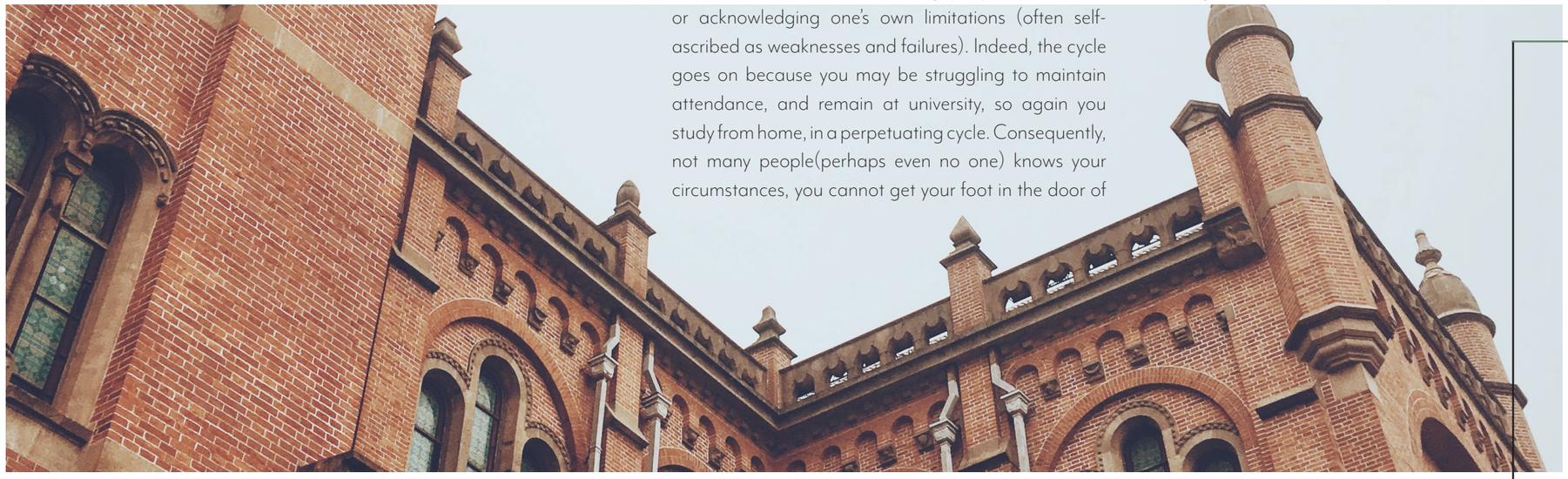
Moreover, theoretical frameworks of citizenship which examine social integration go some way in uncovering the concept of being a citizen and show potential in generating effective strategies for helping persons with mental health problems achieve full community integration (i.e., full citizenship). Rowe and Colleagues' Programme for Recovery and Community Health (PRCH) at Yale University in the U.S. conceptualise citizenship as the 5 Rs – rights, responsibilities, roles, resources, and a sense of belonging - which society provides through relationships, institutions, networks, and associations and is validated by one's fellow citizens (Rowe et al, 2001, 2009). The five Rs of citizenship are dynamic, interacting and working in collaboration with one another (Atterbury & Rowe, 2017). Furthermore, life disruptions may interfere with one's ability to engage with the five Rs. For instance, Rowe et al (2012) argue that life disruptions, as a characteristic trigger and consequence for diagnosis of mental illness, is an event(s) common among many who suffer major general illness and imprisonment, which prevents those suffering from mental illness achieving life goals and achievements important to the concept of citizenship (e.g., graduating university, starting a job, familial responsibilities, etc.). This undermining of their self-perception as a citizen leaves a gap not generally filled following medical treatment, which negatively impacts on their ultimate rehabilitation and recovery.

Academics from across the social sciences within the University of Strathclyde have, in collaboration with Yale's PRCH, helped develop the Citizenship model further (e.g., MacIntyre & Cogan, 2018a; MacIntyre & Cogan, 2018b; Cogan & MacIntyre, 2018; MacIntyre et al., 2018; MacIntyre et al., 2019; Cogan & MacIntyre, 2019). An important finding was that some of the main barriers to citizenship are stigmatisation (both from others and self-persecutory), social exclusion leading to isolation in a exacerbating cycle (i.e., more isolation gives a sense of greater exclusion, greater exclusion creates a sense of greater isolation, creating a sense of inability to bridge the gap to inclusion, and so on), and people have a greater sense of difference (being negatively different, as in 'not normal', as they perceive themselves or they feel others perceive them (Cogan et al., 2020)). Effectively, not feeling as though you are a citizen may be the most significant barrier to inclusion (Cogan et al. 2020). (Nicola Cogan – Research output — University of Strathclyde – here you can find the articles referenced in this paragraph).

What does this all even mean and how does it have anything to do with lockdown? To explain how, it is important to recognise that chronic illness – both mental and physical – take multiple forms, and even people with the same illness experience different struggles and adopt different coping strategies. Indeed, coping with and managing a chronic illness involves a lot of trial and error, and sometimes people subsequently adopt maladaptive strategies. And, as outlined above, chronic physical illness is a significant contributor to the development of mental illness. Significantly, it is the psychological aspects (e.g., coping and management strategies) of chronic illness and their bequest as barriers to inclusion I wish to focus on.

For many students with chronic illness, the very consideration of getting to university is an arduous and anxious experience, fatigue can often be overwhelming, and subsequently, attendance may be low – let alone further engagement with the broader university community/experience outside one's classes. In a sense, it can often feel like one is at university, but is certainly not part of the university – such that one is not a citizen. Suddenly, one's sense of belonging drops off, they may feel unable to take on roles and responsibilities (e.g., joining societies and clubs, making friends, or simply getting to know peers), and thus important means of maintaining inclusion and validating your citizenship are removed. Consequently, you may have decided to study from home to remove some of the difficulties you are facing and attend university when only necessary. Now you have been away from university for prolonged periods – indeed, you may have taken time off university – then you attempt to return, hiding in lectures, wanting to engage with the wider community but not knowing how, and not believing oneself is able to take on responsibilities for fear of letting people down and/or acknowledging one's own limitations (often self-ascribed as weaknesses and failures). Indeed, the cycle goes on because you may be struggling to maintain attendance, and remain at university, so again you study from home, in a perpetuating cycle. Consequently, not many people(perhaps even no one) knows your circumstances, you cannot get your foot in the door of inclusion and you are isolated, feeling stigmatised and your illness (i.e., differences) are accentuated, and alas you may have developed mental health problems – so the prospect of becoming a citizen by re-engaging with the university is an overwhelmingly anxious thought you simply feel incapable of doing.

However, what if there was a scenario in which you could attend lectures at your own schedule? You could have days when you are so physically drained and unwell you cannot attend? And what if on those days where you are unwell you could attend a lecture, seminar, society, whatever, but be curled up in a ball in your own home? Perhaps online learning has these benefits, and it may provide a key opportunity to open up about your illness enough that people around you understand that there may be times where you can't attend, may take a bit longer to undertake a task for a society you always thought of joining (but always convinced yourself not to), are simply unable to do a certain task without always having to hide your disability or a variety of other aspects of the university experience you felt you weren't able to engage with. Indeed, this may well offer a sound bedrock for when university returns to on-campus teaching because you have set the foundations, done the difficult and anxiety-arousing aspect from a more comfortable position. Importantly, this foundation may allow you to feel more at ease continuing to engage once back on campus and resolve some of the anxieties that may in turn arise if/when you are unable to complete something or attend the university in the future.



Ryan Barbour. Strathclyde Psychology Society.

STUDENT RESEARCH

Student research is key to the development of academia outside of our prescribed curriculum. This section has summaries of research conducted by students across the UK, which were presented at the PsychNeuroBio Conference and the BPS Undergraduate Conference.

Tahira Kaur Chopra

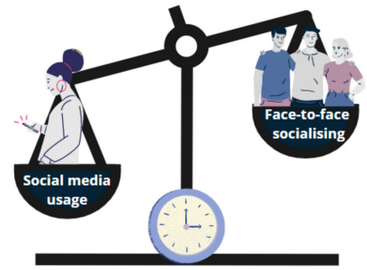
Class of 2022

Social Media and Loneliness: an Unwarranted Moral Panic?

Questioning the predictive power of social media screen-time and the impact of item priming on loneliness.

Amy Hunt. University of St Andrews. Class of 2021.

Over half the world's population regularly uses social media (SM) and the worldwide average SM daily screen-time is over 2 hours per person, which adds up to over a month per year (Tankovska, 2021). Mainstream media often suggest that large amounts of SM screen-time increases loneliness - but there is actually no consensus for this in the scientific literature (Schønning et al., 2020). Many studies find no relationship between screen-time and loneliness (Yavich & Davidovitch, 2019); studies that claim a relationship are often of low quality and do not consider other important variables such as time spent socialising face-to-face (Orben, 2020). My fourth year project investigates whether SM screen-time significantly predicts loneliness, and also considers whether the ratio of online and offline socialising times predicts loneliness. This study also considers how the wording of questionnaire statements could affect subsequent responses, and investigates the impact of positive and negative statements (in a semantic sense) on loneliness scores.



249 participants aged 18 to 82 completed an online survey. They estimated their weekly SM screen-time and weekly time spent socialising face-to-face. This was used to calculate the percentage of total socialising time that they spent on SM. Participants were also presented with one of two adapted loneliness questionnaires containing either completely positively or completely negatively worded statements. The questionnaire measured overall loneliness, as well as three subtypes of loneliness: friendship, family and romantic.

Findings showed that SM screen-time did not significantly predict loneliness. This result is congruent with many other findings that suggest that widespread panic about SM screen-time and loneliness is unjustified (Orben, 2020). We recommend that future research investigating SM and loneliness should measure different, more meaningful variables such as active and passive usage, which relate to how individuals use SM.

However, the percentage of total social time spent on SM did significantly predict loneliness. This suggests that vulnerability to loneliness arises not simply from higher SM usage, but from a higher proportion of time spent on SM compared to the amount of face-to-face socialising. This finding complements previous theories that a balance of online and offline activities is important for social well-being (Hume & Mort, 2012).

Although no effect was found for overall, family or romantic loneliness, the participants presented with negative statements reported significantly higher levels of friendship loneliness than the participants presented with positive statements. This finding indicates that the perception of friendship might be more vulnerable and fragile than perceptions of family and romantic relationships. It also confirms that questionnaires about friendship and sociality should include a mixture of positively and negatively worded items, in order to reduce the impact of these statements on responses.

AUTOMATIC IMITATION OR SPATIAL COMPATIBILITY?

Non-human stimuli affect performance in an online key-pressing task in social and non-social contexts.

Viola Komedova. University of St Andrews. Class of 2021.

What is automatic imitation and why is it important?

Automatic imitation represents imitative tendencies in stimulus-response-compatibility tasks (SRC)(1). In SRC tasks (e.g. the Stroop task!!) (2), a compatible stimulus facilitates response and an incompatible stimulus interferes. In AI tasks, the tendency to imitate the incompatible stimulus, slows down a response, for example. These tasks provide opportunities to investigate imitation mechanisms (e.g. mirror neurons) in a controlled laboratory environment.

Are AI paradigms really measuring imitation?

Some have argued that AI can be confused with spatial compatibility (3), meaning that participants are guided by spatial cues rather than imitative tendencies (see Figure 1) However, human and human-like stimuli yield significantly stronger effects than non-human stimuli (4). Since imitation is a social phenomenon it should account for matching behaviour of animate models. If spatial compatibility is a main driver of "AI", these effects should be triggered even by non-social stimuli. Furthermore, some evidence suggests that when participants believe motion of a non-human stimulus was adapted from human motion and interpret non-human stimuli as animate, AI effects are stronger that when a non-human stimulus is believed to be inanimate (5). This suggests that animacy beliefs could explain why sometimes non-human stimuli do yield the same effects.

Can i) AI effects be replicated online, ii) spatially compatible non-human stimuli also affect performance and so confound AI effects, and ii) animacy beliefs about non-human stimuli also trigger AI effects?

In this online experiment designed with Gorilla.sc, participants pressed computer keys in response to task-relevant stimuli (coloured cues) while compatible or incompatible task-irrelevant stimuli were displayed (moving dots or hands). All participants received human and non-human stimuli, but to test the impact of interpreting stimuli in a social context, participants either viewed hands first or were told that the non-human stimuli (i.e. moving dots) represent human fingers.

What were the findings? What does this mean?

Reaction times were faster during compatible than incompatible trials in all belief conditions and for both hand and dot stimuli. The effect was even greater for dots than hands. This suggests that spatial compatibility effects that sometimes pass as imitative tendencies can be simply triggered by non-social movement. To measure AI and effects of animacy beliefs, experiments should control for spatial compatibility. Additionally, expanding AI research to online platforms could facilitate more generalisable results.

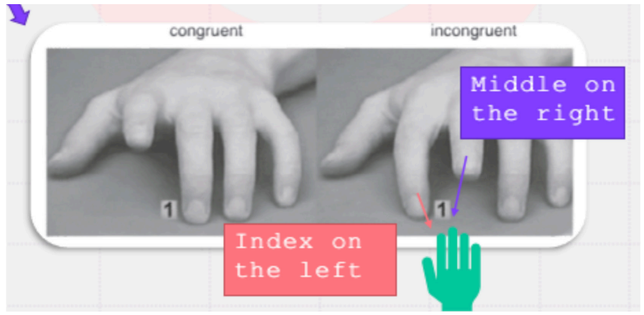


Figure 1: An example of spatially compatible hand stimuli in an SRC task (adapted from Brass et al., 2000)6. Task was to lift index finger in response to number 1. Green hand represents participant's hand.

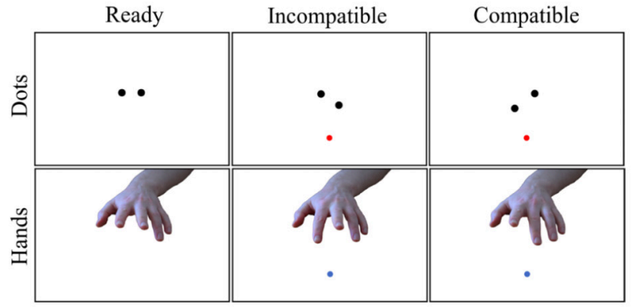


Figure 2: Hand and dot stimuli examples. Task was to press right index finger in response to red dot and middle finger in response to blue dot.

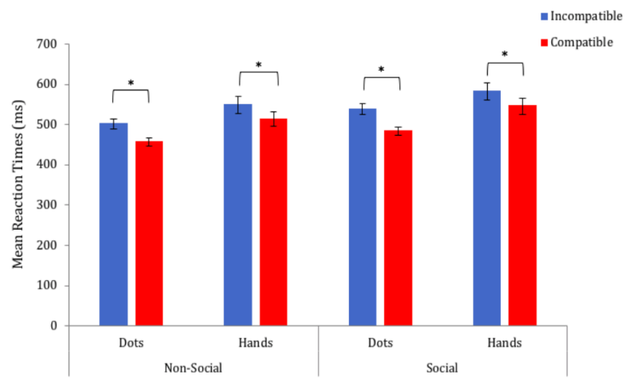


Figure 3: Average reaction times (ms) in incompatible and compatible trials, for dot and hand stimuli and in non-social or social context.

ASTROCYTE-SYNAPSE INTERACTIONS IN MOTOR NEURON DISEASE:

CASUAL BYSTANDER OR STAR OF THE SHOW?

Calum Bonthron.
University of St Andrews. PhD Student (Grad 2022).

Collaborators working on the project: Dr. Sarah Burley and Dr. Matthew Broadhead

If like me (in the glorious innocence of pre-March 2020 of course) you regularly spent a chunk of your weekends in a Scotrail carriage, you may have seen advertising for donations to Motor Neuron Disease (MND) Scotland. These very effectively put across the tragedy of a fatal neurodegenerative condition which sees people diagnosed as young as those in my PhD cohort, and one for which there is no cure. Patients experience devastating loss of muscle function, with a prognosis of just 2-3 years after diagnosis.

MND, like many other neurodegenerative conditions, has proven a challenge to study. One reason for this being the high degree of heterogeneity (or variability) with which the disease presents. The age of onset, to what degree there is cell death and where, which mutations (if any) are immediately involved, and the presence / severity of concomitant cognitive impairments may all differ between patients (Taylor et al., 2016; Hardiman et al., 2017) . This, as you can imagine, has made it rather difficult to elucidate a clear disease mechanism. Just to make things more confusing, it may even be the case that there is no true single mechanism, and a variety of risk factors in different patients take part in complex interactions between different cellular systems, ultimately concluding at similar final disease pathways.

Despite this, two promising mechanisms are of particular interest. One is the idea of excitotoxicity, whereby neurons have decreased survival caused by the excessive action of glutamate, an excitatory neurotransmitter (Dong et al., 2009). An excitatory neurotransmitter makes a neuron more likely to fire an action potential, the binary electrical signals neurons use to propagate information. Linked to this, there is plenty of evidence that neurons' 'excitability', or ease with which they fire action potentials, is higher in MND. This 'hyperexcitability' therefore leads to excitotoxicity, whereby neurons effectively work themselves to death.

This leads to our next confusing question, why is there hyperexcitability? Well two possibilities are highlighted in Figure 1. Altered

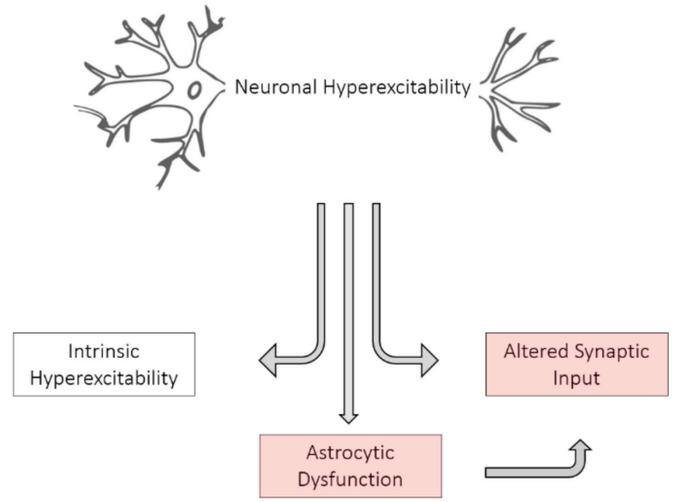


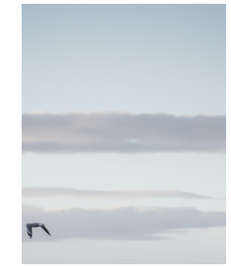
Figure 1: Potential sources of neuronal hyperexcitability in MND

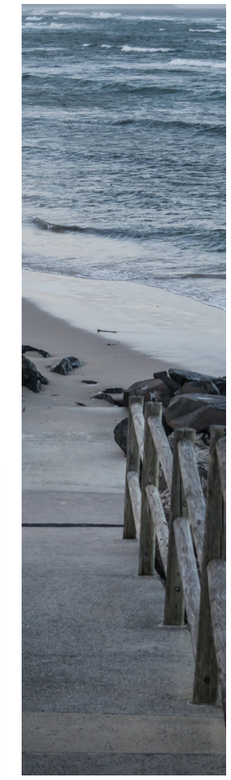
synaptic input refers to a change in the ratio of excitatory to inhibitory synapses within the locomotor network, the idea being a shift in this may cause excessive excitation and therefore neurotoxicity (Martin and Chang, 2012, Kiernan et al., 2019). The other is the action of a cell type called astrocytes which have a multitude of complex functions. These include interactions with synapses throughout life, from being involved in the formation of synapses (thus possibly contributing to this shift in synaptic ratio), to modulation of synaptic activity post-synapse formation as part of a structure called the tripartite synapse (Garrett and Weiner, 2009; Heller and Rusakov, 2017). This provides multiple opportunities for aberrant astrocyte-synapse interactions to contribute to excitotoxicity.

To look at this first interaction (whereby astrocytes may be shifting the balance of synapse formation to favour excitatory synapses in MND), we both need an environment where we can look at synapses being formed, and we need to be able to manipulate whether our astrocytes are carrying a MND mutation or not. A large part of my project has been developing and validating a novel primary cell culture methodology of producing co-cultures of postnatal spinal neurons and astrocytes. Here I can mix up the genotype of each cell type and see the individual impact each has on pathological synapse formation.

To investigate changes in how astrocytes interact post-synapse formation (thus impacting their modulatory role there), I first worked to try to visualise the part of the astrocyte that wraps around synapses, forming the tripartite synapse. Once I had done this, I could look at their interactions with synapses in the spinal cord of mice expressing a common mutation associated with MND called SOD1. When this is done at different stages of disease progression, we can start to work out to what degree this mechanism may be contributing to the development of MND symptoms.

With these different aspects of potential astrocytic dysfunction being looked at, the goal is to gain some insight into the role of a cell type that could be an avenue for intervention in the future. Hopefully when it is my time to leave St Andrews I will have the answers I'm after. Maybe my imposter syndrome might even be better when I'm next rattling along the coast of East Fife staring at an MND Scotland poster. Maybe.





Ella Scott.
University of St Andrews.
Class of 2021.

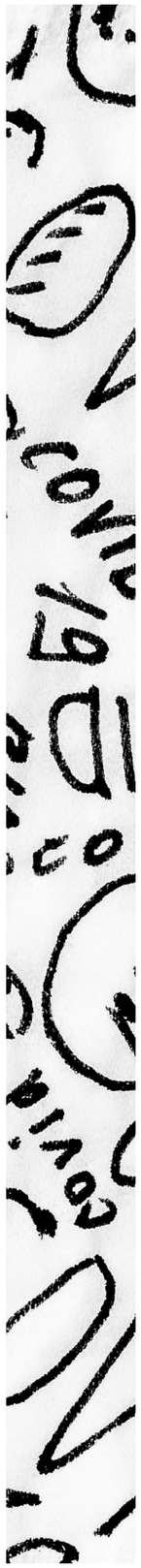
POSITIVE BEHAVIOURAL SUPPORT REDUCES THE CHALLENGING BEHAVIOURS BUT DOES NOT CHANGE THE QUALITY OF LIFE OF INDIVIDUALS WITH INTELLECTUAL DISABILITIES: A META-ANALYSIS.

Around 10-15% of individuals with intellectual disabilities demonstrate behaviours which challenge (Emerson & Bromley, 1995; Emerson et al., 2001) and so managing these challenging behaviours is a key question we can help answer as psychologists. Historically there has been a reliance on restraint-based practices including physically restraining an individual when they are demonstrating behaviours which challenge and also through the use of psychotropic medication (Fitton & Jones, 2020; Edwards, King, Williams & Hair, 2018). Fortunately our practices have largely moved away from models of care such as this and now there is a focus on using preventative measures which aim to foster environments which prevent challenging behaviours occurring in the first place instead of reacting and attempting to manage them once they are occurring.

Positive Behavioural Support (PBS) is one of the primary preventative measures recommended by the Department of Health (2014) which seeks to prevent challenging behaviours occurring. PBS is a person centred intervention which aims to understand the function a challenging behaviour may play through skilled functional assessments and then put in place supports in the environment. The aim of this is to replace the function of the challenging behaviour with an alternative solution resulting in the challenging behaviour ceasing to exist. This is best thought of through an example; a challenging behaviour such as spitting may be assessed to have a communicative function and so communication support and aides (such as PECS cards; Bondy & Frost, 1994) may be put in place and the individual with intellectual disabilities would be encouraged to use the communication supports instead of relying on the challenging behaviour.

The evidence that PBS is effective with individuals with intellectual disabilities is mixed and of varying quality with only two randomised control trials conducted in this area with opposite findings (McGill et al., 2018; Hassiotis et al., 2018). Therefore I ran a meta-analysis to determine the effectiveness of PBS at reducing the challenging behaviours but more importantly I wanted to know whether PBS results in any changes to the quality of life of individuals with intellectual disabilities. The combined results of seven studies encompassing 393 participants showed PBS does decrease the challenging behaviours of individuals with intellectual disabilities (Hedges' g=1.40 [95% CI: 1.26-1.55], p<0.0001, k=7), this change persists long-term (at least 2 years after the implementation of PBS, Hedges' g=2.15 [95% CI: 1.72-2.58], p=0.0002, k=5) but no evidence PBS does anything to change the quality of life of individuals with intellectual disabilities (Hedges' g=0.63 [95% CI: -0.17-1.43], p=0.0886, k=4).

I presented this research at the PsychNeuroBio Conference hosted by Presidents of Psychology, Neuroscience and Biology with the theme of IMPACT. Growing up with a severely autistic brother who demonstrates extremely challenging behaviours at times means this research has a clear impact for me. It is through strong research methods and large scale comparisons such as meta-analyses can we understand the best way to support individuals with intellectual disabilities who demonstrate behaviours which challenge, determine how to improve their quality of life and support their caregivers to deliver the best evidence-based care practices.



THE IMPACT OF SOCIAL INTERACTIONS ON STUDENT MENTAL HEALTH DURING A PANDEMIC:

A Study by Vvidhi Agrawwal and Dr. Eoin O'Sullivan.

It has been about exactly a year since the COVID-19 pandemic first began and needless to say it has impacted everyone's lives in many ways. One of the biggest reasons why life is how we know it today is because contact was identified to be the most prevalent way of transmission. It has warranted a drastic increase in social restrictions. The continued lockdown and the health risks associated with social interactions have led to an avoidance for socialising. As a result, many report feelings of loneliness (Brodeur et al., 2020).

Surveys investigating the impact of COVID-19 on mental health also report specific negative impacts on their mental health and well-being, such as difficulty sleeping (36%) or eating (32%), increases in alcohol consumption or substance use (12%), and worsening chronic conditions (12%), due to worry and stress over the coronavirus (Panchal et al., 2020). However, the extent of the negative impact on people's mental health is still not completely understood.

In our study, we predicted that an increase in frequency of social interactions will have a negative impact on the experience of depressive symptoms and feelings of loneliness.

94 undergraduate and postgraduate students at the university of St. Andrews were recruited and were asked to complete a series of self-reporting questionnaires including: Revised UCLA Loneliness Scale (UCLA-R), the Centre for Epidemiologic Studies Depression Scale (CES-D) and the researcher-developed Social Interaction Questionnaire (SIQ).

We found that as in-person social interactions with friends and family reduced over the pandemic, feelings of loneliness increased. Additionally, in line with previous literature, we found evidence to support a strong relationship between increasing feelings of loneliness and experience of depressive symptoms. Other measures of social interaction, including the perceived supportiveness and friendliness of in-person social interactions also seemed to reduce depression and loneliness scores.

These findings help us quantify the extent to which the pandemic has impacted mental health of those around us. Only once we fully understand the degree of impact can we begin to treat it. Even though, the way in which social interaction plays a role in loneliness and depression is complex, the findings from this study open a range of possibilities to investigate the extent to which social interactions have an impact on feelings and emotions.

It is a widely accepted notion that the sustained psychological distress of the COVID-19 pandemic will have an impact on people's well-being for many years to come. In my opinion, future research should explore the qualities of social interactions, such as the effects of supportive and warm interactions, that might help fight against the negative potential impacts on loneliness and depression. The results of which should also be considered by universities as they implement services and policies to support students through these challenging times. Since young people, like university students, are highly dependent on their daily social interactions, they are arguably some of the most vulnerable when it comes to mental health challenges caused by a disruption to their social lives.

THE EFFECT OF THE SUDDEN SWITCH TO ONLINE TEACHING AND EXAMS FOLLOWING COVID-19 ON TEST ANXIETY AND PREPARATION IN UNDERGRADUATE STUDENTS

Student researcher: Kaitlin Turner
Supervisor: Dr. Emily Nordmann

For my dissertation, I interviewed students on their experiences of online exams following COVID-19. Obviously, due to social distancing these interviews were conducted online. As this was my first time conducting research interviews by myself, this was quite jarring because it was difficult to build up that all-important rapport with the students (I had to add more introduction and talk about myself more after a few because they were so short!). As well as that, there were often distractions on the students' ends (having to be put on mute while one participant screamed at her dad that she was on a call and having to write "[dog barks]" a hundred times over in another transcript are some vivid examples) which made gathering rich data quite difficult.

However, I made it through and moved on to transcribing. This was so much worse! It took absolutely ages due to the inaccuracy of the automatically generated transcript, however I was continually thankful that I had easy access to this and a video recording of the interview for lip-reading purposes – a luxury that probably wouldn't have been afforded with face-to-face interviews. So, clearly there are pros and cons to online interviews but as a statistically inept individual, this was still preferable to running R script for hours and hours.

Having the opportunity to speak with students and then use my own interpretations as well as past literature for analysis was so fantastic to me! I got into psychology because I was interested in people and how they experience the world – something which I can't really get to grips with through numbers and statistics. Therefore, being able to conduct my own qualitative research made me more comfortable in applying my own view of psychology while still making a relevant impact!

Therefore, while this research hopefully provides insight for students and teachers in future online exams, I can say it has definitely had an impact on my personal motivation for future research and sparked a (lifelong?) interest in qualitative methods.

The effect of the sudden switch to online teaching and exams following COVID-19 on test anxiety and preparation in undergraduate students

Student Researcher: Kaitlin Turner, Supervisor: Dr Emily Nordmann

Environment

Being at home rather than on campus meant that some students found concentration difficult where some were more productive in a comfortable environment (possibly because some students had studied at home since first year!)

Practical benefits of being at home (no bills or commute) meant less pressure and anxiety

The removal of interaction with other students meant that some were calmer as there were less people stressing each other out whereas others were more stressed as they felt isolated in their stress

Some students found that the lack of access to university resources meant less engagement and the lack of academic stimuli meant that they were replaced with stimuli which fostered procrastination (we've all been there!)

Exam format

Exams were often made online and lasted anywhere from 24 hours to a week (!). This meant different things for different students. Some found that having more time meant no 'useful' pressure and others found that it was useful for taking breaks and reduced fear of technical issues negatively affecting performance

Having open book exams meant that students weren't relying on memorising information like in previous exams. For some this meant that they were less likely to engage fully with the material and develop and in-depth understanding of the topic. For others it meant that they were less focused on memorising and felt more comfortable in reading around the subject and widening their understanding

<u>What This Means…</u>

A lot of students mentioned that they prepared less for online than in-person exams, this could be due to a lack of 'meta-awareness' about their own performance pre-COVID (which could be improved by using Lovett's (2013) exam wrappers which can improve 'learning about learning'). As well as this, different learning styles affected preparation (as in face to face exams) which shows that there can be no universally affected and accepted assessment style! Where students were unhappy with communication from staff, it would be good to remain mindful of the challenges faced by staff who have to consider a number of factors such as logistics, objectives and testing continuity.

<u>What Now..?</u>

Limitations from this study come from the fact that a student researcher conducted the study which could have led to a bias (combatted through reflexivity and a decision trail), online exams mean less of a rapport and more distractions for participants (such as dogs barking in the background!) and the fact that the staff perspective is overlooked. Thus, future research should look to combat these methodological and theoretical limitations so that we can further our understanding of this topic and produce provisions for students who are taking online exams to improve preparation and reduce test anxiety!

Cassady, J. C., & Finch, W. H. (2014). Confirming the factor structure of the Cognitive Test Anxiety Scale: Comparing the uti
Lovett, M. C. (2013). Make exams worth more than the grade. Using reflection and metacognition to improve student learning
Pietkiewicz, I., & Smith, J. A. (2014). A practical guide to using interpretative phenomenological analysis in qualitative resear
research. International Journal of Qualitative Studies in Education 16: 175–196.

What We Did…

For my dissertation research, we decided to interview 15 undergraduates in 8 UK universities to explore their lived experiences of test anxiety and preparation following the sudden switch to online exams following COVID-19. We did this since the sudden nature of switching from one learning and exam format to another has largely been overlooked in previous literature (probably because this has been a previously scarce occurrence)

How We Did It…

There are three elements to students' experiences we were interested in, these were: preparation, performance and reflection (Cassady & Finch, 2014) and so we asked questions relating to these and analysed responses in light of this framework. Following our interviews we conducted 'interpretive phenomenological analysis' (Pietkiewicz & Smith, 2014)

Communication

Communication is key! Students often found that having clear and consistent communication from staff was key for reducing the anxiety of the unknown and knowing where to go to for help was useful

Reflection

When reflecting on their experiences, students found that they performed better than expected and vice versa – the difference was that some students attributed this to their own abilities where others attributed it to staff marking more harshly (but let's not forget the role of recall bias!)

"ONLINE EXAMS THEY JUST, LIKE, CONSTANTLY, LIKE, EVERY HOUR IT'S LIKE 'I'M STILL IN AN EXAM'"

PETER

"I DON'T KNOW IF IT'S, LIKE, NECESSARILY BENEFICIAL FOR ME IN THE LONG TERM IN TERMS OF MY KNOWLEDGE BUT IN THE SHORT TERM I LIKE IT BECAUSE I DON'T KNOW IT'S, LIKE, OPEN BOOK WHICH IS REALLY HELPFUL"

LISA

"…I DON'T LIKE THE INSTABILITY OF IT IF THEY COULD JUST SAY 'LOOK THE PLAN IS WE'RE GOING TO WRITE AN ESSAY' GREAT OR 'THE PLAN IS YOU'RE GOING TO DO A PRESENTATION OR MAKE A POSTER FOR, LIKE, A SCIENCE FAIR' THEN I WOULD BE, LIKE, 'AWESOME GREAT LET ME GET STARTED' BUT IT'S THE FACT THEY GO 'WELL IT'S GOING TO BE LIKE THIS BUT WE MIGHT ADD AN ELEMENT OF THIS AND PERHAPS I'LL DO THIS' IT'S JUST, LIKE, YEAH JUST DON'T TRY AND GET ALL CREATIVE WITH ME"

SARAH

"IT DEPENDS WHAT SITUATION YOU'RE IN TO HOW MUCH YOU CAN CONCENTRATE" // "IT AFFECTED MY CONCENTRATION QUITE A LOT 'CAUSE IT WAS OTHER PEOPLE AROUND"

AMY

"YOU COULD JUST GET DISTRACTED QUITE EASILY"

JOHN

"BY THE MOMENT I JUST THINK (.) I WAS APATHETIC"

JOHN

Timeline of anxiety

Most students found that their anxiety fluctuated based on which stage of the exam they were at and suggested that there was an optimal level of anxiety which can be released as a catharsis during timed exams and that this was removed with open book and online exams

Test anxiety was often eclipsed by anxiety over worldwide events and distractions surrounding checking for the news and other external interruptions from strikes meant that students sometimes felt 'apathetic' by the time online exams were announced

"THERE'S NO KIND OF, LIKE, SHARED, LIKE, STRESS"

ROSA

"IN TERMS OF CONCENTRATION AND THAT I WAS GOING ON MY PHONE MORE BECAUSE THERE WAS MORE TO, LIKE, TALK ABOUT, LIKE, THERE WAS MORE NEWS"

PAULA

ity of three solutions. Educational Assessment, 19(3)
ɟ: Across the disciplines, across the academy, 18-52., 229-242
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HOW TO GET INVOLVED?

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