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The Experiences of Medical Students with Dyslexia: An Interpretive Phenomenological Study

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Abstract

This article explores the experiences of UK medical students with dyslexia, using an interpretive phenomenological approach. This project began with a review of the literature, highlighting a void of qualitative research. We then conducted a collaborative autoethnography. This paper forms the next stage in this series of research. We aimed to to elicit meaning and understanding from the lived experiences of our participants. Eight UK junior doctors with dyslexia were interviewed over the telephone in an in-depth, unstructured manner. Audio-recordings were transcribed verbatim and thematically analyzed with the aid of a template analysis. Experiences of helplessness and hopelessness were common. These may be a result of a fear of stigmatization, and personal feelings of inadequacy. They may also be fuelled by the incidents of bullying and belittling from other medical students that were reported. An important meta-theme was of fear and lack of understanding. A lack of pastoral support was also reported. Their experiences of medical school assessments are also reported. More may need to be done to educate teachers and clinical supervisors on dyslexia.

Background

Dyslexia is recognised by the UK Equality Act of 2010 as a Specific Learning Difficulty (SpLD) (Great Britain, 2010; Wray, Aspland, Taghzouit, Pace, & Harrison, 2012). It a common condition, affecting an estimated 10% of the UK population and 1.7% of UK medical students (British Medical Association, 2009; Siegel, 2006).

Three studies have looked at the effectiveness of providing compensations in exams for medical students with dyslexia. These were single-centred cross-sectional studies in the UK. They concluded that, with adequate supports in place, medical students with dyslexia perform on par to those without dyslexia in exams – despite some difficulties in the first

year of their medical studies (Gibson & Leinster, 2011; McKendree & Snowling, 2011; Ricketts, Brice, & Coombes, 2010).

Two further studies of questionable academic rigour were conducted in the US. One - a cross-sectional study of medical students and doctors referred for diagnostic dyslexia assessments, found that 78% of medical students and doctors who were referred for diagnostic testing were likely to be subsequently diagnosed with dyslexia. (Banks, Guyer, & Guyer, 1995; Guyer, 1988) The other, a single case study of the diagnostic dyslexia assessment of a medical student. (Guyer 1988) highlighted the coping strategies, which allowed the disability to remain hidden until reaching medical school. Interesting, but Medicine has changed somewhat since 1988.

Little to no reference is made to performance within clinical settings or the lived experiences of these students. It is therefore imperative that further research be carried out to fill this gap in our knowledge. The experiences of other healthcare students with dyslexia are, however, well documented.

In a study of nursing students with dyslexia, participants expressed an increased concern for the welfare of their patients and, as such, checked their work repeatedly (Morris & Turnbull, 2006). For this reason, clinical work took longer than would be expected for the average student (Morris & Turnbull, 2006). This correlated with Guyer's inference that a medical student with dyslexia may take longer to learn the sheer quantity of information expected of them (Guyer, 1988).

These struggles with timekeeping could be linked to Child & Langford's finding of reduced short-term memory capabilities in nursing students with dyslexia (Child & Langford, 2011). This study also highlighted the difficulty of adjusting to different work routines when starting new clinical placements (Child & Langford, 2011). We could not locate any research into this area concerning medical students.

Murphy highlighted the commonality of stresses experienced within clinical placements (Murphy, 2009). It was highlighted that clinical placements offered no support or empathy, compared to university placements (Murphy, 2009). This seems to be a common factor amongst much of the existing research. Murphy not only documented that students struggled with time management and deadlines, but that this also translated into disorganisation of patient care (Murphy, 2009).

Child & Langford showed that some nursing students with dyslexia carried pocket spelling devices on the wards (Child & Langford, 2011). Guyer also discussed how a student may adopt coping strategies in order to survive undetected within the education system, only to decompensate within medical school (Guyer, 1988). However, both Guyer and Rosebraugh noted that, in students who are supported adequately, these become more efficient and allow them to progress through their courses to successful graduation (Guyer, 1988; Rosebraugh, 2000).

“Awareness of their strengths and weaknesses allows them to develop compensatory strategies and affords educators an opportunity to teach those individuals in an adaptive manner” (Rosebraugh, 2000).

Although the existing literature makes reference to these coping strategies, no studies have been performed to highlight what these may be within medical students.

Rosebraugh highlighted how, under the ever increasing workload of medical school, students' coping strategies may begin to fail (Rosebraugh, 2000). This may cause the students to develop low self-esteem, and may eventually lead to depression (Rosebraugh, 2000). Students with dyslexia may also have greater anxiety about academic workload than those without dyslexia (Jordan, McGladdery, & Dyer, 2014). These findings are supported by Ridley, who found that a lack of perceived support for nursing students with dyslexia caused emotional upheaval for the students involved – "*I have cried*" (Ridley, 2011). Due to the high workload and continual assessment within medical schools, the effects on the emotional states of medical students with dyslexia require further consideration.

A synthesis of common themes within the wider healthcare literature is presented in Table 1, in the style of Oga and Haron (Oga & Haron, 2012).

TABLE 1 HERE

Despite this multidisciplinary research, medical education is unique in its culture, content and delivery. Therefore, this study aimed to report the experiences of medical students with dyslexia.

Methods

Researcher Context

SS has dyslexia. He was a UK medical student. JA supervised SS' Masters dissertation into the experiences of medical students with dyslexia. This paper reports findings from that study.

This project began with a review of the literature (Shaw & Anderson, 2015), the results of which have been summarised here. This was followed by an autoethnographic study (Shaw et al., 2016). These formed the background and underpinning for this study. A summary of the experiences of our participants as junior doctors has been published elsewhere (Shaw & Anderson, 2017).

Methodology

This qualitative study adopted an interpretive phenomenological approach. Phenomenology aims to document the “lived experiences” of the people being studied (Colaizzi, 1978). It aims not for generalizability, but to shed light on the world as experienced by the individuals studied. Unlike descriptive phenomenology, in which the researcher aims to achieve objectivity by “bracketing out” their personal experiences and beliefs, interpretive phenomenology challenges the inherent paradoxes within the descriptivist paradigm by refuting the belief in a single, objective reality and by acknowledging that, in social life, “reality” is subjectively constructed – dependent upon the location of the researcher – and argues that it is not possible to be entirely objective, but more importantly, it is imperative that the researcher admits to their personal experiences and beliefs upfront (Gray, 2014; Lopez & Willis, 2004; Mackey, 2005).

Interpretive phenomenological studies are undertaken with an ontological focus – seeking to understand, or interpret, the wider social, cultural and political contexts in which the participants’ experiences exist (Mackey, 2005). This subjective ontology thereby embraces the multiple realities experienced by participants and researchers (Liamputtong, 2013). This is in contrast to descriptive phenomenological studies, which focus primarily on their epistemological standpoint – concerning themselves with how information may be sought (Mackey, 2005). In this sense the two branches of phenomenology are distinct. They are undertaken with different aims and, subsequently, generate different outcomes (Lopez & Willis, 2004).

The interpretive phenomenological approach stems from the core philosophical standpoint Heidegger, in contrast to the earlier work of Husserl (Mackey, 2005). Therefore, interpretive phenomenology may also be referred to as Heideggerian or hermeneutic phenomenology (Leonard, 1999; Mackey, 2005).

The challenge for both schools of phenomenology is to be transparent and to allow participants’ voices to be heard. An interpretive phenomenological approach also goes beyond mere description and searches for meanings – which may not be apparent to the participants (Lopez & Willis, 2004). In order to achieve this, it aims to not only analyse the pure content of their experiences, but to also understand what their narratives might imply about their lives (Lopez & Willis, 2004). The researcher’s integrity is seen in the scrupulous attention to detail in presenting accounts, which may differ from her/his own thoughts and

experiences, and by being open about her/his own thoughts and experiences and how these may differ or reflect those of the participants.

An initial autoethnographic study was conducted to facilitate SS' introspection and self-analysis (Shaw et al., 2016). Autoethnography blends focussed autobiography with ethnographic analysis. The end product is a rich case study with clear analytical structures and results – which can then be compared to other studies. This served to elicit and declare SS' personal thoughts and experiences, so that they were overt – rather than concealed. Thus, before he began to access and interpret the experiences of others, he had first analysed his own thoughts, feelings and potential biases.

Participant Recruitment

A UK Foundation School (one of the regional supporting/training bodies for UK junior doctors in their first two years after qualifying from medical school) agreed to include announcements in their eBulletin (weekly email announcement), inviting junior doctors with dyslexia to contact SS via email if they were interested in participating in the study. Potential participants were sent a Participant Information Sheet and were contacted by email to arrange times for interviews. All interviews were conducted by telephone. This made it possible to recruit participants, who were very busy, from a wide geographical region. It also enhanced the protection of participants' anonymity. The study purpose was explained. Participants' questions were answered. Informed consent was obtained and audio-recorded.

Junior doctors were targeted for two reasons. Firstly, they were able to discuss their experiences of *all* years of medical school – whilst medical students could only comment up to their current year of study. Secondly, they represented experiences from different UK medical schools.

Data Collection

In-depth telephone interviews were the data-gathering tool. These were unstructured to allow participants the maximum freedom and control over the content of the interviews. In this context, the term “unstructured” refers to interviews in which topics, questions, wording and sequencing are not pre-determined (Gray, 2014). The interviewer (SS), after inviting them to tell their own story, in their own words, in the order they chose, was then able to ask probing questions as and when appropriate to get more details. This embraced SS’ insider status as a medical student with dyslexia – connecting with participants through empathic understanding, enabling them to share the rawness of their experiences with someone to whom they could relate. His personal interest was declared up front. It was used to help access others’ experiences and our understanding of these. His own thoughts and experiences – as a person with dyslexia – were useful in providing him with insight to ask further questions which might not have been obvious to non-dyslexic researchers, and which allowed him to check out if the participants’ experiences differed from his own and each others’. This was balanced in the data analysis by JA’s verification and the negotiation of agreement in the coding.

SS attended JA’s Research Skills workshops on “Obtaining Informed Consent”, “Interview Skills” and “Analysing Qualitative Data”.

Interviews lasted up to one hour each. The aim was to faithfully elicit and report their stories with integrity and transparency so that these speak for themselves. Telephone interviews are not always ideal for a potentially emotional subject such as this. They were used because of the scattered geographical locations of our participants, the times at which they were free to be interviewed, and to alleviate any concerns of anonymity. Signposting to appropriate supports were pre-planned before the interviews commenced.

Data Analysis

SS transcribed the audio-recordings verbatim. This facilitated his immersion in the data. He then conducted a general thematic analysis. Due to SS' own dyslexic difficulties, a template analysis was used to facilitate the initial, open coding of the transcripts. This enabled him to maintain a sense of structure, and to visualise his themes – by-passing his inherent weaknesses with the written form. SS then conducted axial coding. JA verified this analysis in an iterative process, where differences were resolved by discussion and re-analysis. Both authors agreed on the final theme clusters, and a clear meta-theme was extracted.

Ethical Approval

This study was granted full ethical approval by the Brighton and Sussex Medical School Research Governance and Ethics Committee.

Results

Thirteen junior doctors replied to our announcements. Two were rejected because they did not have a formal diagnosis of dyslexia. Three were unable to find time for the interviews. Eight were interviewed. Seven were female. One was male. They graduated from five different UK medical schools. Further information on the participants is presented in Table 2.

TABLE 2 HERE

The emergent themes and subthemes from our data are presented in Table 3.

TABLE 3 HERE

An important meta-theme was of intimidation, fear, and lack of understanding experienced by our participants. In some participants, this fuelled self-depreciative attributes. This triggered a series of negative emotional responses in some, which feature throughout most theme clusters.

Theme 1 – Emotional Impact

Isolation. The diagnosis of dyslexia was an isolating experience for some participants. This was further fuelled by the academic struggles of one participant.

“I have felt as if I am the only person in the world with dyslexia trying to get through med school – and then trying to get through training, as well... You feel quite isolated. Isolated because... I was struggling. Isolated because I would have to spend so much longer, or I would appear to spend so much longer than anyone else.” (P8)

Self-consciousness. Some experienced self-consciousness about their dyslexia, and inadequacy, compared to other students. Some likened their dyslexia to a disease to something that made them less intelligent, less perfect than their peers.

“Throughout my medical career, I constantly felt self-conscious about it.” (P2)

“I felt like my BRAIN wasn’t as good as other people’s brains.” (P1)

“I mean, I know it’s a disability, but I would consider it a disease anyway” (P2)

Hopelessness/helplessness. Although they were not asked specifically about this, some participants reported experiences of hopelessness and helplessness. Their struggles with dyslexia led them to feel like victims of the medical system. They experienced being stuck in inescapable situations, with no light at the end of the tunnel. No participants reported experiencing “depression” within the interviews. They were not asked specifically about this.

“Given the fact that I’ve already failed one [exam], it just makes me feel as if I’m repeating history again and I don’t want to just keep repeating exams.” (P8)

Negative emotional responses were not universally experienced. One participant felt that their dyslexia had not impacted on them emotionally.

“It’s not really affected me. I’ve not really thought about it until now really” (P7)

Impact on disclosure. Participants conveyed fear of disclosure and stigma – as a result of others’ responses towards them – during the interviews.

“I just feel embarrassed. I feel embarrassed because I struggle. Because... Also just the way that medics are. Medics are very highly competitive... So I think it’s probably not as supportive an environment as you would imagine it to be. You know, even from med school when people wouldn’t really share things – they wouldn’t share lectures that were happening or teaching sessions that were happening. You know what I mean? It was a very highly competitive environment. So yeah – no, I’ve never

felt comfortable admitting it.” (P8)

Theme 2 – Others’ Reactions

Other students’ behaviour provoked negative emotional experiences. This negative behaviour (as experienced by participants) seemed to provoke a negative self-image.

“It didn’t help me when my friends told me I was a ‘fake dyslexic.’ Because I am not a fake dyslexic! It’s very dismissive. Which is not good! You wouldn’t say to a patient who’s got cancer ‘oh no, you’ve not got cancer.’ You have to help them come to terms with it, and to accept it.” (P1)

Bullying and rejection. Several experienced bullying or rejection from fellow students and/or clinical staff as a result of their dyslexia. Some experienced oppression by others’ “bullying” behaviours. Thus, throwaway remarks such as “You’re a fake dyslexic”, although meant as a joke, could be deeply wounding and discriminatory to someone with an already heightened sensitivity – or “fragile ego” – as a result of their dyslexia. Participants reported jealousy and deprecation

“I remember someone saying to me ‘oh you should just have cod liver oil tablets’... The thing is, they obviously didn’t believe it’s a real thing... It was really upsetting, honestly.” (P2)

“They (medical students) called me a ‘fake dyslexic’, they were not accepting either.” (P1)

Stonewalling. In an unexpected twist, participants also reported that requests for support were sometimes met with a cold response or “stonewalling”, leading to disappointment.

This contributed further to negative emotional responses in some participants.

“...He accused me of lying (when asking for extra support)... And saying ‘should I even be a doctor’ because I am really unethical...” (P2)

Theme 3 – The System

Stigmatisation. This was experienced by some participants. Based upon these experiences, some felt that medicine and medical education did not adequately support students with dyslexia. They changed themselves in order to survive within this system.

“There’s a lot of tradition in medicine, isn’t there – in the way that people teach... I’ve adapted my life, my learning... To be able to compensate for it (my dyslexia).”
(P4)

Competition. Some experienced medical school as a highly competitive environment. As a result, they reported that they felt out of place, and that they were not good enough. Thus they tended to avoid the more competitive specialities in their career choices. They wanted to merge into the background. Patient safety was a concern. Some felt that they were safer in less fast-paced specialities, where they would have more time to double-check, and confirm prescriptions, for example.

“No, I’m not doing MRCP (Membership of the Royal College of Physicians). I’m doing GP (General Practice) now. For MRCP you have to be super smart.” (P1)

“... It (my dyslexia) makes me reluctant to apply for a competitive speciality.” (P5)

Pride. Some experienced a sense of achievement in being able to overcome the challenges inherent in ‘the system’ and in making it through medical school. Thus some participants worked harder to ‘overcome’ their dyslexia.

“It just shows that my... achievements are that much bigger... I’ve had to cope with it and deal with it... and manage.” (P1)

“I almost saw it (dyslexia) as a challenge... when I was growing up. Like, “oh, people think I’m dyslexic. They might think I’m stupid. I’m gonna prove them wrong and get an A in this exam.” Like, that would be MY attitude towards it. So... When people say “are you disabled?” – that kinda thing... It makes me frustrated. Because you work very hard to overcome the problems you have. And therefore, I don’t really see it as a problem anymore... Because I’ve adapted my life, my learning, my whatever, to be able... to compensate for it. So I guess... it’s a different way of looking at the world – a different way of seeing things. And I think you have to compensate for*

those difficulties. And I think, if you can compensate for them, then you don't have a problem – you can use it to your advantage”(P4)

Theme 4 – Supports: The Good, The Bad, and The Wanted

“... I think medical schools have to be aware that the students may not always take up all the things they put forward, but it is very important for it to be there, because I think, if it wasn't there, we'd all feel completely alone.” (P6)

Pastoral support. Some experienced inadequate psychosocial support and wanted more of this, in addition to the basic academic supports that are more commonly provided.

“Just pastoral support... I think dyslexia's actually quite a big thing.” (P1)

Others to talk to. Most wished they could talk to others who were in the same situation – several were not even sure if there were other colleagues with dyslexia. Dyslexia support groups were discussed by several participants, and would be valued, both in medical school and at work.

“... It would be good to be able to talk to other people who are in the same situation as me.” (P4)

Theme 5 – Essays, Exams, and Exasperation

Assessments arose frequently in all eight interviews. Both positive and negative experiences were shared.

Dyslexia-friendly assessments. Multiple Choice and Extended Matching Question exams were generally seen as dyslexia-friendly assessment methods – as they do not test students' ability to structure a written answer. Participants praised medical schools employing these exam-types.

“... They were MCQ questions, true or false questions and single best answer questions. So, maybe that’s, possibly that’s why I never experienced problems throughout medical school – because I never really had to write anything.” (P5)

Negative assessments. Essays were experienced as a difficult form of assessment. Some participants praised medical schools that did not make use of them in summative assessments.

“... I will mull over it for like, 14-odd hours or whatever. Whereas a normal person – they’ll write an essay easily within 1 or 2 hours.” (P1)

“Sometimes I’ll have to write the whole thing again. Because when I read it the first time none of it seems to make sense.” (P5)

“... Constantly revising the same material and you don’t feel like you’re getting anywhere.” (P4)

Objective Structured Clinical Examinations (OSCEs) were seen as *more* difficult than actual clinical practice – an OSCE is an exam made up of multiple, timed practical/clinical tests, which often include actors or real patients, and an examiner. Whilst extra time might not be a plausible support in OSCEs, several reported that they had scored poorly because of their dyslexia.

“I just don’t remember what the patient tells me.” (P1)

“I hated them (OSCEs)... I can remember one particular station... I felt very disadvantaged because of my dyslexia.” (P4)

Several experienced a lack of supportive measures for OSCEs. A piece of paper to make notes on was requested – they had not been allowed this. This was highlighted repeatedly.

“But, having paper (in the OSCE) would definitely have helped me.” (P1)

“And, I asked for a pen and paper before the station. But they said I wasn’t allowed it. Because no one was allowed it.” (P2)

Some recalled pejorative responses when requesting a pen and paper in OSCEs.

“When I wrote to them and complained about that particular scenario, they basically said ‘Tough luck’.” (P4)

“They just said no. So I had to accept that...” (P1)

Negative experiences of OSCEs were not, however, unanimous. One participant found OSCEs to be a positive experience, and discussed how their personal strength, communications, helped them:

“That was kind of my strongest point – the OSCE. That kind of communication skills...” (P3)

Paradoxical support. One participant pointed out that extensions to deadlines were a double-edged sword – as were having extra time in exams and being in a separate room – which identified and labelled them.

“Because extending it would just be extending my pain.” (P1)

Theme 6 – Me, Myself and My Dyslexia

Positive aspects. Not all participants experienced negative aspects to the same degree. For some, their compensation was to call upon personal strengths to overcome the handicapping impact of dyslexia. These included working harder, preparing more, double-checking, and focussing upon interpersonal skills. Some also developed abstract ways of thinking, or strong practical abilities and improved communication skills. It seemed as though they focussed some of their best qualities to overcoming their dyslexia. They made special efforts to compensate for their dyslexia. For example, by over-preparing, by checking things repeatedly, and by enhancing their human-relations skills.

“I feel like we are more focused... We have to remember everything, so try.” (P1)

“I think our (patient) care is a little bit more... holistic, I’d say.” (P8)

“... So I generally think that I’m quite a good communicator.” (P5)

The association of dyslexia and the self. There was a divide between participants. Some reported that their dyslexia had prompted the development of their strengths by having to overcome their handicap. Others reported that strengths and weaknesses were core characteristics of themselves – not their dyslexia. This was an interesting dichotomy. The two schools of thought were simple: 1) dyslexia was part of their core personality, making life harder, but driving them to acquire compensating strengths to overcome it. Or, 2) dyslexia was a defining aspect of them – a label that was not a direct influence on their performance or abilities – “it is just me”. The latter group also shared concerns that others might think they used their dyslexia as a scapegoat.

Discussion

This study of a small group of junior doctors with dyslexia revealed several important themes.

Negative experiences such as isolation, shame, self-consciousness and feeling different were commonly reported. This was linked to a sense of hopelessness/helplessness, and was exacerbated by others’ negative responses, which further stigmatised them and resulted in fears of disclosure/exposure.

Whilst our participants interpreted experiences of others’ bullying and jealousy as hostility, the ‘perpetrators’ may have had different intentions. There may be something within their

lack of understanding of dyslexia, or its impact, that triggered these behaviours. It is therefore important that we explore how the perpetrators may have felt, and why they may have lashed out, before this situation can be truly understood.

There was always a duality – costs and benefits. Compensating by working harder, for example, had the benefit of masking their dyslexia. But this was at a cost to their experiencing less of a social life than other students. Compensations such as extra time in written exams can help students with dyslexia – as previous research has shown. (Gibson & Leinster, 2011; McKendree & Snowling, 2011; Ricketts et al., 2010; Shaw & Anderson, 2015). But they also mark them out as different from the rest of their peers. Later hand-in dates for essays help, but they prolong “the pain”. Additional time in exams fosters equity, but identifies them publicly. Access to supports is helpful, but it reinforces a ‘disabled’ self-identity.

What is impossible to tease out is the extent to which some people’s experiences of being vulnerable are caused by, or made worse by, their dyslexia.

An important support that was lacking was emotional/pastoral support. This may exacerbate their experiences of isolation and low self-esteem. Support groups might allow them to find comfort in knowing others in their situation, others they can turn to, and others they can confide in and empathise with. Further research could help determine whether such groups are beneficial. Having someone to talk to was something that would be universally welcomed by our participants. One participant contacted SS several months

after the interview and reported how talking through their experiences in the interview was therapeutic:

“After our discussion last year I have only recently admitted to my children that I have dyslexia. I don’t want them to go through life feeling they are a failure and [to] feel disadvantaged or ashamed... Thank you for helping me [to] open up with my family about my dyslexia.”

Some of our findings support those of Newlands et al. (Newlands et al., 2015). They described experiences of UK junior doctors with dyslexia undertaking Foundation Year 1 (the first year of work as doctors after graduating from medical school in the UK), and found that their participants reported specific difficulties with:

- Communication;
- Time management;
- Disclosure; and
- Anxiety.

They did not, however, identify the same experiences of negative emotions, of bullying, and of exams reported by our participants. These are unique to this study. This may be because of our differences in interview style – they used a pre-determined topic guide to access specific areas of experience. We did not.

Our respondents’ fears of exposure (many indicated concerns about anonymity) may suggest a fear of ostracism if their dyslexia was widely known. Do these prejudices come

from the other students, or do they reflect staff prejudices which they are mirroring and modelling? The GMC (General Medical Council, 2015) reported:

“Another area where again there is now greater awareness is the bullying and undermining of members of the healthcare team. It does however continue to be a matter of real concern, with nearly one in ten doctors in training reporting that they had been bullied.” (p13)

It is worthy of note that studies of nursing students with dyslexia show similar results to this study (Child & Langford, 2011; Morris & Turnbull, 2006). And another study of five people with dyslexia in Malaysia (Oga & Haron, 2012) reported the following main theme clusters:

- Subjected to the watchful eyes of others and their negative reactions;
- Receiving support;
- Encountering difficulties in academic related areas;
- Reactions towards the condition of being dyslexic;
- Poor sense of orientation;
- Areas of strength and/or passion.

These were very similar to the findings we have reported above. It is our hunch that the medical school environment, with its abundant pressures, may merely amplify the impacts of dyslexia. Interestingly, Oga & Haron adopted a Descriptive Phenomenological approach, in which the lead author who has dyslexia attempted to “bracket out” their preconceptions and beliefs (Oga & Haron, 2012). It is interesting that, despite the different phenomenological approaches, Oga & Haron (2012) and this study produced such similar results.

Study limitations

This study reports the findings from a small group (eight) of UK junior doctors with dyslexia – survivors of the system in which they trained. It is likely that many potential doctors with dyslexia did not survive the range of barriers in the system – from admission to graduation – and therefore fell by the wayside in a system that may be unsupportive of individuals with dyslexia. Their voices are yet to be heard.

Whilst our sample size was small, we did not purport to generalize our findings. The important issue is that these findings inform readers and prompt thought about how these might be used.

Telephone interviews may seem to be questionable. However, in practice, these are the only solution in engaging busy professionals – such as junior doctors.

Some may view SS' insider status as a medical student with dyslexia as a potential source of bias. However, the process of verification and close teamwork should minimise this risk. His insider status was a strength, which was central to our interpretive phenomenological approach, and provided contextualisation and deeper understanding.

The 7:1 female-male split of our participants was disappointing, but not too surprising since women are more prepared to discuss such sensitive topics. Men may feel too vulnerable to risk exposure. Thus we may have under-reported the impacts of negative experiences. This might limit the application of our results if we made claims about the generalizability of our

findings – but we do not. The invitation to the reader is to understand what we have reported and to apply the knowledge where appropriate.

Conclusions

This in-depth study of junior doctors with dyslexia aims to shed light on their experiences as medical students with dyslexia. There have been no previous studies of medical students with dyslexia.

A variety of experiences were revealed, including a potential culture of misunderstanding and bullying, resulting in their reluctance to be identified as having dyslexia. We identified numerous experiences of hopeless and helpless among our participants.

Participants' experiences of supports for assessments were mixed. OSCEs were unexpectedly experienced as being challenging – allowing students a pen and paper might remedy this. Dyslexia support groups were also suggested as an adjunct to traditional supports.

We found a duality of costs and benefits. Participants experienced having to work harder, to double-check and to over-prepare, to compensate for having dyslexia. These resulted in their experiencing significantly reduced social lives compared to other students.

Interestingly, some coping strategies highlighted the potential for innovation, creativity and humanity.

We hope to have provided some insight into the experiences of UK medical students with dyslexia,. Further research is needed to assess the generalizability of our findings. We therefore conducted a survey to fill this gap and shall report these results seperately. Additional studies are also underway to examine medical students', attitudes and behaviours towards students with dyslexia; and to investigate the experiences of medical students with dyspraxia.

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Table 1: Common themes from the existing literature.

Common Themes from the Existing Literature (CTEL)	Elaboration
CTEL 1: Time Management	They may take longer to complete assessments/assignments and require extensions to deadlines. However, they may also require additional time for clinical activities.
CTEL 2: Spatial Awareness	They may struggle to orientate themselves when interpreting imaging and when undertaking practical skills. For example, confusing left and right.
CTEL 3: Coping strategies (including task avoidance)	They may interpret and perform tasks in different and unexpected ways. They may also avoid stressful situations that are likely to highlight their difficulties. For example, avoiding answering phones to avoid taking messages.
CTEL 4: Emotional Distress	They may feel anxious or fearful about their performance in group tasks – as these may highlight their dyslexia.
CTEL 5: Career Pathway Decision	They may avoid entering fast-paced career pathways.
CTEL 6: Disclosure of dyslexia	They may feel uncomfortable disclosing their dyslexia to Healthcare Professionals whilst on clinical placements through anticipation of stigmatisation or exclusion.

ID Code	Gender	Age	Age at diagnosis	Time of diagnosis	Medical School Ranking	Any other Specific Learning Difficulties?
P1	Female	25	19	2 nd year of medical school	3 rd decile	No.
P2	Female	26	18	1 st year of medical school	2 nd decile	Yes – dyspraxia.
P3	Female	25	18	1 st year of medical school	3 rd decile	No.
P4	Female	24	12	Before medical school	1 st decile	Yes – dyspraxia.
P5	Male	26	24	5 th year of medical school	3 rd decile	No.
P6	Female	28	13	Before medical school	6 th decile	No.
P7	Female	27	13	Before medical school	5 th decile	No.
P8	Female	39	33	5 th year of medical school	Unknown.	No.

Table 3: Summary of the study themes and subthemes.

Themes	Subthemes
Theme 1: Emotional Impact	Isolation; self-consciousness; hopelessness/helplessness.
Theme 2: Others' Reactions	Bullying and rejection; stonewalling; impact on disclosure.
Theme 3: The System	Stigmatisation; competition; pride.
Theme 4: Supports: The Good, The Bad and The Wanted	Pastoral support; paradoxical support; others to talk to.
Theme 5: Essays, Exams and Exasperation	Dyslexia-friendly assessments; negative assessments; lack of exam support.
Theme 6: My, Myself and My Dyslexia	Positive aspects; the association of dyslexia and the self.